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Inc.

THE *REAL* ART OF THE DEAL

How Trammell Crow Built the World's Largest Real Estate Empire

PAGE 78

PAGE 46

The Company That Money Almost Killed

PAGE 64

Myths and Realities of Day Care

PAGE 161

Renegotiating Your Bank Loan

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by
Dudley Reed/Onyx

PREMATURELY GRAY?

Critics say the U.S. high-technology industry is threatened by too much entrepreneurship. Statistics suggest there's not enough

BY DAVID L. BIRCH

There is a stereotype of high-tech companies—particularly the venture capital–backed, glamorously "entrepreneurial" sort.

In the stereotypical characterization, the average high-tech business is just one of a thousand small companies that spin off from universities or larger companies to capitalize on some sort of breakthrough—a new drug or a new chip design, say. It's a risky business, the stereotype suggests. A few high-tech companies make it, and make it big. The rest quickly fade away, most dying at an early age. The companies that do survive go through steep ups and downs as they gain (or lose) their competitive edge. Or so goes the stereotype, anyway.

Some have argued recently that the description is accurate and the process corrosive. They say that the thousands of start-ups steal vital talent from larger, more viable companies, making it virtually impossible for the large companies to compete effectively with their massive Japanese counterparts.

We cannot, it is claimed, compete effectively in world markets if we permit our technology base to fracture into thousands of inefficient operations. We must institute a way to stamp out this fracturing by sharply increasing the capital-gains tax—thereby erasing the investment appeal of speculative and irresponsible venture formation.

What *are* the facts about high-tech companies?

Well, one aspect of the stereotype holds up. High-tech businesses do tend to get bigger faster than most other companies. By the end of their first five years, high-tech companies are nearly twice as likely as other manufacturers (14.4% versus 7.7%) to have more than 50 employees. Only 51.5% of five-year-old high-tech companies employ fewer than 10 people; 65.4% of other manufacturers do. It's little wonder that venture capitalists find them attractive.

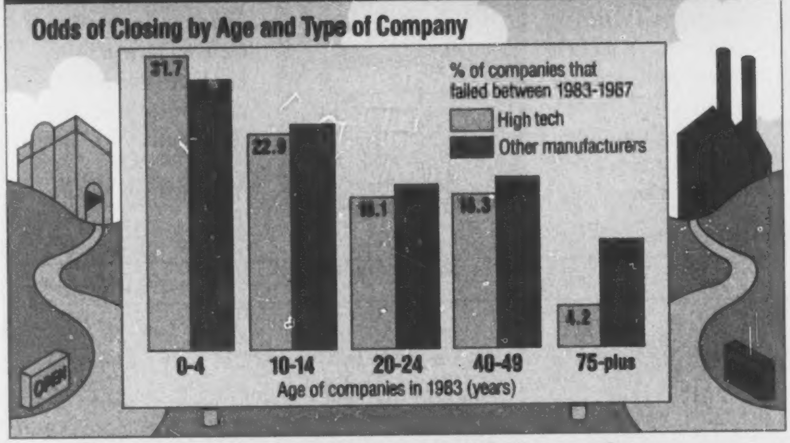
But that's where the stereotype fails. There are other reasons the venture capitalists love high tech: it's neither particularly risky nor particularly volatile. With the exception of the very youngest, high-tech companies are systematically the manufacturing enterprises *least* likely to go out of business (see figure 1). And even the youngest ones are only slightly more vulnerable.

Employees in high-tech companies are only marginally more likely to be bounced around than are people working for other manufacturers. We read so often about high-tech expansions and layoffs that it's not difficult to conclude it's a boom-or-bust part of the economy. Not particularly. The whole economy experiences big ups and downs, and high tech is not particularly unusual in this regard.

Most surprising to the uninitiated is the prevalence of big companies in high tech-

FIGURE 1

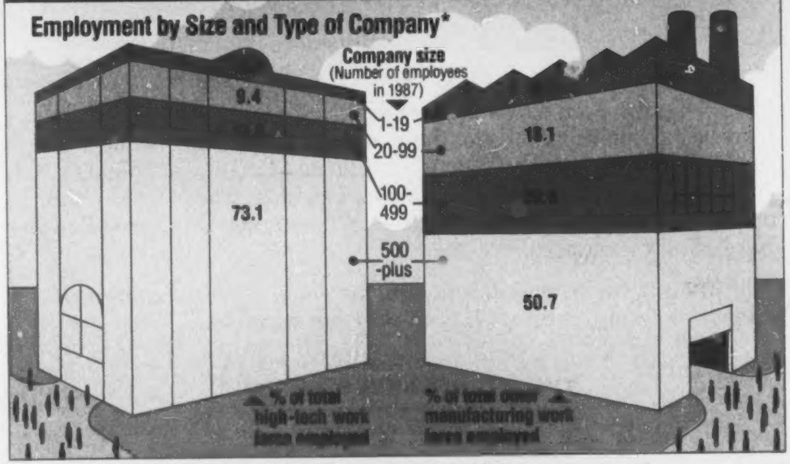
A Not So Risky Business



As the selected examples show, high tech outsurvives other manufacturers.
Contrary to stereotypes, high-tech failure rates are low.

FIGURE 2

Playing a Big-Company Game



Almost three-quarters of high-tech employees work for large companies.
High tech is one of the most concentrated sectors in the U.S. economy.

CHARTS: DAVID HERBICK

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nology. Only 4% of the people who work in high tech work for the small, struggling companies so often romanticized (versus 10% for other manufacturers—see figure 2). Conversely, almost three-quarters of all high-tech employees work for large companies with more than 500 employees (versus 51% for other manufacturers). High tech is one of the most concentrated sectors of the U.S. economy—only slightly less concentrated in large companies than are the makers of cars and planes (78%, as opposed to 73% for high tech), and significantly more concentrated than the steel business (66% versus 73%). Virtually no one works for the smaller spin-offs struggling in garages.

In sum, high tech looks much more like a mature sector than an embryonic one. It has relatively low failure rates, average volatility, and employs an extremely high percentage of its workers in a fairly few large companies.

In this context, it is difficult—if not impossible—to understand the argument that entrepreneurship is killing our technology base by draining vast amounts of talent into thousands of smaller, inefficient enterprises. Very few industry sectors in our economy have a larger share of their workers in large companies and a smaller share in small ones.

The discovery that high technology is mature and ordinary rather than boisterous and extraordinary does not, and should not, diminish its importance to the economy. High tech is to today's economy what the steam engine was to the nineteenth century's. Very few jobs were created by manufacturing steam engines. Very few small companies manufactured them. Their importance flowed not from their construction, but from what they made possible after they were constructed.

Similarly, the huge surge of job growth we have experienced in this decade, and are likely to experience in the decades ahead, is based in large measure on what can be done with technology. It is technology's application, not its construction, that fuels the New Economy.

If anything, we should be concerned with how few people work for smaller, innovative technology inventors, not how many. It may be that our technology sector is maturing too fast for its own good, squeezing out the very kind of entrepreneur that developed the technology giants of today from infant companies started as recently as a decade or two ago. □

David L. Birch is president of Cognetics Inc., in Cambridge, Mass., and director of MIT's Program on Neighborhood and Regional Change.

OWNER'S MANUAL

BRINGING UP BABY

The myths and realities of day care

BY ELLEN WOJAHN

HAVING A FAMILY, SAID COMEDIAN MARTIN MULL, IS like "having a bowling alley installed in your brain." Nowhere do the pins clatter louder than at work, where the kids may be out of sight, but never out of their parents' worried minds. Are the little ones getting along OK? What if they are too sick for day care, or the sitter quits—*again*?

For most employed parents, peace of mind comes with high-quality, dependable child care that they can afford. Unfortunately, given the long waiting lists, the high turnover rate among providers, and a weekly bill that tops $100 in major cities, parents are rolling more gutter balls than strikes in that game. Many families, in fact, aren't sure from one week to the next who will be taking care of the kids.

Smart companies know: day care pays off.
A boost to productivity—and peace of mind

All these concerns affect the way a person works. Count the ways: the days that begin late and end early, the lack of concentration, the frequent phone calls home, the dubious sick days. What's more, it's no longer uncommon to see mothers *and* fathers turning down promotions when job and parental responsibilities clash. Lack of child care is a major culprit in perennial management problems such as retention, recruiting, and absenteeism.

Few companies are untouched by child-care difficulties. Those that feel they can ignore the problem may not be able to do so for long; tight labor markets predicted for the years ahead may stimulate many more companies to offer child care as part of their strategy to recruit and retain female employees. Already a tiny cadre of small companies is tackling the issue head-on. Among them:

Integrated Genetics Inc., with its associated venture, Gene-Trak Systems, a $12-million biotechnology business in Framingham, Mass., offers an information and referral service to employees in need of child care.

Group 243 Inc., an advertising agency based in Ann Arbor, Mich., administers a plan that enables employees to pay their child-care costs with pretax dollars. It also sponsors an on-site child-care center.

Perkins Geddis Eastman, an architecture firm in New York City, is liberal in its use of flexible work schedules and parental leaves.

Tempting as it may be, don't write these companies off as social crusaders or do-gooders. In reality, adding child-care assistance is a strategic decision, and companies make it for the same reason they might choose to offer stock options, profit-sharing plans, or other incentives: a significant payoff exists for the company. They are convinced that child-care assistance makes for more loyal, more reliable, and more productive employees.

That's not to say they didn't take a show-me attitude in the beginning: did their employees really need child-care assistance, or was the company merely being sucked into another fringe-benefit fad? Was child-care assistance affordable? Would it cause liability problems? Would it tangle the company in bureaucratic or internal red tape? And how would nonparents react to it?

These companies satisfied themselves that while little about child-care assistance comes easily or cheaply, most of the pitfalls associated with it are either exaggerations or outright myths.

How do companies make a decision like this one? "I guess you make it the same way you make any big decision," says Larry Taylor, vice-president of Taylor Corp., a company in the printing business that has had an on-site child-care center for nearly 10 years. "Is the problem costing us employees? Is it making it hard to get them? I mean, would it be good business? That's always going to be the bottom line, isn't it?"

Few aspects of managing a business have developed as negative a mythology as child-care assistance. But when you examine the myths one by one, you get a different picture.

▶ STORY PROPOSAL ◀

ew aspects of managing a business have developed as egative a mythology as child care. Critics say that it osts too much, is difficult to administer, and is fraught ith liability problems. Some of the smartest companies round manage to provide some form of child-care assisance—and they're boosting productivity and making ecruiting and retaining easier. Let's take a look at what appens when you deal with this issue—possibly *the* enefit of the '90s—the way you would stock options, rofit sharing, or any other incentive. —*E.W.*

PHOTOGRAPH: MARK ALCAREZ

MY 1 TH

We don't need it.

Chances are, you do—now, or you will in the future.

Gone forever is the time when parental worries were left at home with the wife and children. Today, less than 10% of American households fit the Ozzie-and-Harriet, Ward-and-June image that many of us outdatedly consider a "normal" family. Increasingly common: two-thirds of married couples with children have two-paycheck households, and 25% of children live in single-parent households.

Indeed, women have filled some 60% of the new jobs created since the 1970s. In small business, the proportion of women in companies of fewer than 100 employees was at 44% in 1983. Sixty-seven percent of the jobs created from 1988 through 1995 will be filled by women. Demographers say that 80% of these women will become pregnant sometime in their working lives. In a sharp departure from past decades, when pregnancy ended careers, economic necessity will keep most of these women working. That's why the fastest-growing segment of the work force, now and for the foreseeable future, is mothers of young children. Already, two-thirds of women with children under three years old hold full-time jobs.

What's more, as the baby-bust generation comes of age, employers will face a shrinking labor pool and greater competition for workers. How to expand the pool? A 1982 Census Bureau survey revealed that 26% of nonworking mothers with young children say they would look for work if reasonably priced child care were available.

The overall aging of the U.S. work force is already creating tight hiring conditions in some regions and industries. Princeton University demographer Thomas Espenshade believes the worst is yet to come: "In the not-too-distant future, employers are going to find themselves in a zero-sum game, competing for the few good employees that will be out there. Many of them are going to have to increase their total benefits packages to attract and retain workers, and I think employer-sponsored child care is going to be particularly attractive."

Don't write child care off as a women's issue, though. In a recent survey of parents of children under the age of two, 89% of women and 62% of men reported work-related child-care problems.

The need for child-care assistance is so great that it promises to become a major political issue in the 1990s. Already Congress has before it more than 100 bills that could have some impact on child care.

MY 2 TH

Child-care assistance means an on-site center.

Companies actually have many alternatives to providing on-site day care. And even the simplest plan can be a tremendous help to employees with kids. Here are the plans most often pursued by small companies:

☐ providing information and

Perkins Geddis Eastman

THE FLEXTIME STRATEGY

Money isn't the issue. The architects, interior designers, and staff at Perkins Geddis Eastman, in New York City, can afford to buy quality child care, if they want it. No, what the parents in this 50-employee firm want is time to provide their *own* child care. That's why the firm offers both male and female parental leaves, followed up with a flexible work policy that allows them to work one or two days a week at home, just to ease the transition.

The policy was established when the firm was launched in 1982, a year before any babies came on the scene. "We were looking for stability," recalls partner Barbara Geddis. "We know how demanding the profession can be. The typical attitude in this business is, 'Having a baby? Well, come back in three years when you're done.'" ' Geddis and her partners thought it important to do what they could from the start to hang onto their senior employees and let them use their time more flexibly for both work and child rearing. "We believe that, ideally, a person with a child should be a parent," Geddis says.

Architect Amy D. Stein, with son Peter

Flexible hours at home or at the office

The first three employees to take advantage of the flexible workweek were men. All three took unpaid, three-week paternity leaves and, for about a year after that, worked out of their homes at will. As women began starting families, the policy was modified to allow for longer leaves. "We've found women seem to need more time off, at least in the beginning," explains Geddis. "Probably six months totally off, and a year after that in some sort of flex."

The evolution continues. "Now, as the kids get to be two, three years old, and new people start families, we see people wanting their flexibility in different ways," Geddis explains. "They want flexible hours instead of days, and they want to know they can bring the child to work if they need to."

Geddis admits that accommodation has had its consequences. A few clients, for example, have been momentarily irritated to find that their architect is at home with the baby. It can be inconvenient for co-workers, too, who sometimes have to take up the slack in order to get work out on time.

"The people who have chosen the three- or four-day option effectively put their careers—well, not on hold, because their careers didn't stand still, but they certainly froze their responsibilities," says Geddis. "That was acknowledged ahead of time, and it's had some impact on salary negotiations." But there have been no gripes. "Most of these people are '80s couples with mutual commitments. They're doing what they want, and they're accepting the consequences."

Revenues: $5 million
Employees: 50
Employees affected: 12
Annual cost: NA
Start-up cost: NA

PHOTOGRAPH: PETER VIDOR

Grieco Bros. Inc.

THE PARTNERSHIP STRATEGY

How do you attract and retain $8.75-an-hour garment workers when labor is a seller's market? That was the problem facing Tony Sapienza, vice-president of manufacturing at Grieco Bros. Inc., makers of Southwick brand men's clothing, when the economic boom hit eastern Massachusetts in 1984. If he didn't come up with something, the 59-year-old factory in Lawrence would be forced to shut down.

Child care made sense. Seventy-five percent of his work force was female. With $50,000 of Grieco family money in hand, Sapienza set out to establish an on-site center.

V-P Tony Sapienza
On-site care, thanks to state aid

It wasn't long before Sapienza realized he would need to at least double his capital. He cajoled another nearby mill, Polo Clothing Corp., to sign on with a contribution of $20,000. Foundations kicked in $20,000. The Lawrence city council coughed up $10,000. Still, it was not enough to cover renovation costs. Where would the operating monies come from? And could they find some deep pockets to defray the workers' $120 weekly fees?

Sapienza consulted Ed Clark, regional vice-president of the Amalgamated Clothing & Textiles Workers Union, who agreed to champion a per-employee contribution of 1¢ per hour. That added up to $21,000 a year. "Older employees and some of the immigrants said they had done without child care, [so] why couldn't today's young people?" Clark recalls. "But less than 1% of the 600 people voted against it."

Next, Sapienza hammered out a plan whereby the center would be run independently, by Grieco's predominantly Hispanic work force, as a minority-owned and -operated enterprise. Then Michael S. Dukakis's administration agreed to subsidize low- and moderate-income parents' fees totaling $298,287 per year. A subsequent low-interest start-up loan of $30,000 from the Massachusetts Industrial Finance Agency put the project "over the top," Sapienza says.

The center opened for business in January 1986. By Sapienza's measures, the program is a success, showing that management and labor can cooperate on shared goals.

Clark agrees. "Grieco did this with not entirely altruistic motives; we saw an opportunity to improve our lot. We got good results because both sides wanted it and needed it."

Sapienza hopes that onlookers come away with the lesson that child care need not be a white-collar, rich-company phenomenon. "Anyone can raise the start-up money if they try."

Operating funds are another story, however. Sapienza acknowledges that state support was critical. "The state spent $110 million on child care last year. Other states don't spend like that. But, of course, they're probably wondering why their welfare recipients won't go back to work."

Revenues: NA
Employees: 800
Employees affected: 55
Annual cost: $50,000
Start-up cost: $50,000

referral services that guide parents to high-quality care available in the community;

☐ offering flexible work schedules that allow parents to match their hours to their babysitters' schedules;

☐ establishing an IRS-approved plan enabling employees to pay for child care with their pretax earnings;

☐ subsidizing the cost of child care either directly (through a voucher system that pays a set percentage of the bill) or indirectly (through a plan that may or may not be tied to the benefits package);

☐ establishing on- or near-site child-care centers on their own, or with other companies.

Companies should begin their consideration of day-care assistance by conducting a careful needs audit. But don't simply round up the preschoolers' parents and ask them for their child-care preferences. Focus on what's happening right now—where the family lives; the kids' ages; the problems their parents are having with child care; the number of different child-care arrangements made each week; and in some detail, how the family is coping with child-care needs before school, after school, in the summer, and when the kids are sick.

During the study, try not to build false expectations by mentioning services you know the company can't or won't deliver. And don't ask how much the parent would be willing to pay for child care. "If the answers come back 'five bucks a week,' well, you asked!" says Phoenix-based consultant Nadine Mathis. But do include nonparents in the survey—they may know better than anyone how child-care problems affect morale and productivity in the work force.

What percentage of employees can you expect to participate in the day-care plan? From 5% to 10% participation is considered normal, 20% very good.

Only after the survey are you in a position to figure out what sort of child-care assistance—if any—is necessary. Would your company benefit from an on-site child-care center, or would your employees be grateful merely for help in finding quality care in your community? Do employees need help paying for child care? Or would they prefer a more flexible work schedule that might allow them to take on more of their children's care themselves?

MYTH 3

We can't afford it.

It's true that on-site child care can be expensive. But the alternatives—the various reimbursement plans, information and referral services, and the flextime approach—cost surprisingly little, either in time or money.

The cost of resource and referral programs vary with the size of your organization and the contractor you choose. Integrated Genetics, in Framingham, Mass., is paying a mere $3,500 per year for its program, assuming 6% usage on the part of 300 employees. For that fee, the company receives access to 1,300 child-care providers plus parental seminars four times a year.

A dependent-care assistance program, enabling employees to set aside pretax dollars to pay for child care, cost Group 243 only normal fees for bookkeeping changes the first year. "There's a nominal cost in the first year, because you're setting aside salary dollars for your employees," says senior vice-president of corporate administration Carey Ferchland. "After that, there's really nothing to it either financially or logistically—there's just a ceiling [the maximum amount the employee can withhold] to keep an eye on."

On-site child care is far more expensive, of course. Companies typically subsidize part of the costs of the center rather than the entire cost. Group 243

PHOTOGRAPH: MARK ALCAREZ

subsidizes $50,000 of its center's $100,000 to $200,000 program. Taylor Corp. chips in $1,000 per child, or about 40% of operating cost.

Perhaps the smallest company offering subsidized on-site child care is Oliver Wight Cos., a 24-employee management consulting firm in Essex Junction, Vt. It subsidizes more than 50% of the cost of operating its center for 11 children. But the company doesn't find it an outlandish figure. "It's less than it costs to hire one good executive," says benefits administrator Debbie Peck.

MY 4 TH

We won't get much back for all the expense and trouble.

You can't take the benefits of child care to the bank. Most of them aren't easily measured. Still, a whopping 95% of the companies responding to a 1984 survey said the benefits of their child-care programs outweighed the costs.

To what extent, however, most companies don't know. "You want to reduce it to dollars and cents?" asks an incredulous Larry Taylor. "Foolishness. There are too many variables to get an accurate measurement. But we see the benefit in positive employee feedback, parental peace of mind, a more dependable work force, improvements in recruitment and retention, and higher numbers of women in management. These are the things that make it worthwhile for us."

To that list add good public relations, says Group 243's Carey Ferchland. "We've gotten at least one major advertising contract out of this, not to mention headlines in publications we normally couldn't have dreamed of getting into at our age," she says.

Many of the companies that INC. interviewed believed it would be possible to run their on-site child care centers in the black. They simply choose not to. "I think I could run ours at breakeven," ventures Ferchland, "but it would mean lower salaries, greater staff turnover, worse staff-child ratios, and in general, a lower-quality program. And that's not what we want."

MY 5 TH

We're too small and understaffed.

You don't need a mature organization with a full-fledged personnel department to run a program. For example, resource and referral plans are well within the grasp of most small companies. You can contract for the service or work with church and community leaders to compile a list of your own.

Any of the reimbursement options can be easily handled by a staff accountant, or contracted out to a bookkeeping firm. One such option enables employees to pay for child care with pretax dollars. "It's so easy to set up," says Ferchland. "You just get the IRS to bless it, and then attach it to your accounting and paperwork function."

Flexible work schedules,

Taylor Corp.

ENABLING WOMEN TO ADVANCE

Nancy Schwamberger's husband died six years ago, leaving her with two boys to raise—one age four, the other a preemie with respiratory problems.

Without her employer's on-site child-care center, Schwamberger would have been unable to maintain a full-time schedule and would have had to give up her financial independence. She certainly couldn't have risen to the position she holds today, staff accountant for Taylor Corp., a printing business in North Mankato, Minn. After all, you just don't find child care to cover a six-day, 47-hour floating schedule like hers.

Shauna Brignac, a married mother of three, is another satisfied parent. "In the past, I spent my days worrying and feeling distracted," says Brignac. "I'm sure it affected my job performance. Now, I don't think about the kids all day, probably, unless I'm afraid Rebecca, who's still in diapers, is getting sick. Even then, all I have to do is pick up the phone and say, 'Can I have a report on Rebecca?' "

Taylor Corp. owner and CEO, state senator Glen Taylor, is a major advocate of child-care assistance. He and his brother, Larry Taylor, established the center in 1979, when the company was a 1,000-employee operation in the midst of a growth spurt.

Back then, Glen Taylor recalls, the company was having trouble recruiting and retaining workers. It couldn't assure parents of finding child care in the area. Things had gotten so bad, in fact, that even veteran employees were turning down promotions, fearing that the extra responsibility might complicate their already tenuous babysitting arrangements. When a supervisor named Jean Andersen told the Taylors that her two-year-old had gone through four babysitters in a matter of a few months, they urged her to begin putting together a case for on-site child care.

CEO Glen Taylor
Overhead is high, but recruiting easier

Taylor invested $400,000 into the construction of a cottage that houses the center, and it subsidizes care at $1,000 per child—or about $140,000 per year. That's a big overhead item, but recruiting, promoting, and retaining workers—especially women—has become easier.

Meanwhile, Glen Taylor is pushing legislation that would give tax credits to companies that establish an assistance plan. If passed, it would be the most ambitious set of child-care incentives in the nation. "As long as business needs employees, and as long as women need to work but can't without adequate child-care options, a problem exists. If we want to keep women in the work force, off public assistance, and, most important, if we want them to advance, we have to recognize the problem that's holding them back. It's lack of child care."

Revenues: $200 million +
Employees: 5,000 total;
2,200 local
Employees affected: 140
Annual cost: $140,000
Start-up cost: $400,000

PHOTOGRAPH: ROB JOHNSON

Countdown to Start-up

PERCEPTRONICS INC.

Mid-November, 1987: The wags at Perceptronics Inc., a maker of military training devices, say it must be in the water—how else could they explain the spate of new babies? Devra Weltman, then working as an internal auditor, recalls that chief financial officer David P. Nelson had once raised the possibility of adding some sort of child-care assistance to the benefits package. Nothing came of it. Weltman, finishing up her undergraduate studies and eager to carve a role for herself at the Woodland Hills, Calif., company, brings the idea to her father, CEO Gershon Weltman, who greets it with interest. Devra tells personnel to put her on the routing list for anything related to child-care assistance. She also begins sending for books and pamphlets.

December: The word is out, and women are telling Weltman that nothing short of an on-site center will do; child care is difficult to find in Greater Los Angeles, they say. An expectant mother stops into Weltman's office to urge Devra on. "If you *don't* get us this child-care center, and soon," she says, teasingly, "this baby's going to end up in your office!"

Devra Weltman of Perceptronics, and 'co-worker'
Still searching for a workable child-care program

January 1988: Weltman makes her first semiformal pitch to Nelson and president Amos Freedy. "We're losing people," she says. "One woman took on a consulting contract for a while after she adopted a child, but now she's not working for us at all. Maybe we could have kept her if we'd had something to offer her." Nelson and Freedy free Devra from her duties to delve into the research. Weltman begins visiting child-care centers.

January 29: Weltman meets with Sandy Burud, president of Summa Associates Inc., a Pasadena, Calif.-based consulting firm. Burud agrees to help Perceptronics choose a child-care assistance program. That includes helping conduct a needs assessment and later, helping with construction, licensing, staffing, marketing, maybe even operation. Burud says an on-site center for a company the size of Perceptronics should accommodate about 30 children, or about 10% of the work force. She says a September 1988 opening date is not only feasible, but desirable: parents are most receptive to changing their child-care arrangements at the beginning of a school year.

But the big topic is liability. Burud assures Weltman that Perceptronics need not worry: insurance coverage will cost $150 to $180 per child, or, in this case, about $5,000 a year. Afterward, Weltman reports to Nelson, who agrees that "liability won't be the swing issue" on a go/no-go decision. "It'll rest on the cost-benefit analysis."

February: Weltman's on the road again, touring various child-care centers. She's begun thinking about space. Because Perceptronics rents facilities in a cluster of three buildings, she will not only have to select an area that is suitable to the company and the state regulators—who require 35 square feet per child inside and 75 out—but also acceptable to the building owners. Late in the month, Burud appoints colleague Choral Nasser Brown to handle the project.

Early March: Weltman and Brown meet and agree to a two-step plan: first the development of a sample budget, followed by a needs-assessment survey of the work force. "Let's hope it shows us whether child care will help us recruit and reduce absenteeism—and gives us some idea of how it will affect things we can't measure, like morale and productivity," Nelson says. Before the the month is two-thirds gone, Brown produces the budget. Lots of figures are soft, but she tells Perceptronics to expect an annual operating subsidy of up to $2,000 per child. Weltman discusses the budget with Nelson, who is now more explicit about his concerns. "As a defense contractor, we're going to have to be sure this won't jeopardize our profits. And I'm going to have to look at how other government contractors are dealing with this. I'm not against pioneering, but if nobody else is doing this, I think we ought to examine why."

Late March: The pace quickens. After another round of visits to day-care centers, Weltman selects an architect. She touches base with the building owner again, this time to obtain blueprints to show the architect, and to discuss the possibility of turning part of a parking lot into a playground. To Weltman's pleasure, he is completely supportive. A week later, Weltman meets with the architect, who asks questions she can't easily answer. Will this be a structured program, or will the kids determine their own activities? She'll have to decide these things before he can design the structure. Nonetheless, he says he can meet a September deadline.

April: Weltman and CFO Nelson distribute the needs-assessment survey. There's an air of excitement; Weltman finds herself reading through each survey as it is handed in, enjoying the many positive responses. Still, definitive results won't be available until the end of the month. Then, the company will either commit to child care or abandon the idea. "We're not going to dabble," Nelson tells her. "We're not going to commit blindly, either. But if everything continues to look positive, we'll go forward. And if we go, we're really gonna go."

May: The numbers are crunched. Encouraging as the results had seemed initially, Weltman and Nelson decide that establishing an independently operated center is not wise. "Disappointing as it is," says Weltman, "I've got to be realistic. We're going to have a bit of a baby boom in five years, but going ahead now is a little too much for us to handle."

August: Weltman remains on the stump for child care, but now she's lobbying neighboring companies that might want to invest jointly in a program. "We hope to have something concrete put together before the end of the year." And remember the woman who jokingly threatened to drop her little one in Devra's lap if something weren't done to alleviate her child-care problem? "The baby spent most of the summer in my office," says Weltman, laughing. □

Revenues: $38.4 million
Employees: 350
Employees affected: 30*
Annual cost: $60,000*
Start-up cost: $90,000*
*Estimated

PHOTOGRAPH: DAVID STRICK/ONYX

which are a major help to parents, are already offered by many companies as part of their general workstyle. Parental-leave policies may require a bit of fancy footwork, but they too prove manageable even in start-up companies. In fact, many companies find that flexible scheduling allows them to expand their business day, and companies that institute job-sharing programs enjoy the peace of mind of knowing that each shared position has its own back-up in the event of illness or attrition.

Although few small companies want to go this far, even running a child-care center may not be out of the question. Oliver Wight Cos. built child-care space into its new building when it outgrew its facilities (in the president's house) seven years ago. Today the center serves 11 children from seven families.

MY 6 TH

Liability exposure is too big a risk for us.

There has not been a successful liability case against a corporate-sponsored child-care center, as far as can be determined. And, according to sources at San Francisco's Child Care Law Center, there is virtually no liability exposure in corporate subsidy of employees' child-care costs.

A company can provide some protection for its assets by establishing a separate division to operate an on-site center and by subcontracting for referral services. Above all, be sure you get some insurance—it's cheaper and easier to obtain than you might think.

Insurance carriers are generally willing to write policies that cover corporate child-care centers. The cost? At $2,000 to $7,000 per year for an enrollment of approximately 30 children, most companies find the premiums reasonable. Another insurance break comes by way of an Austin firm, Human Services Risk Managment, that offers a course in liability loss control. Several insurers provide incentives to companies that complete this training.

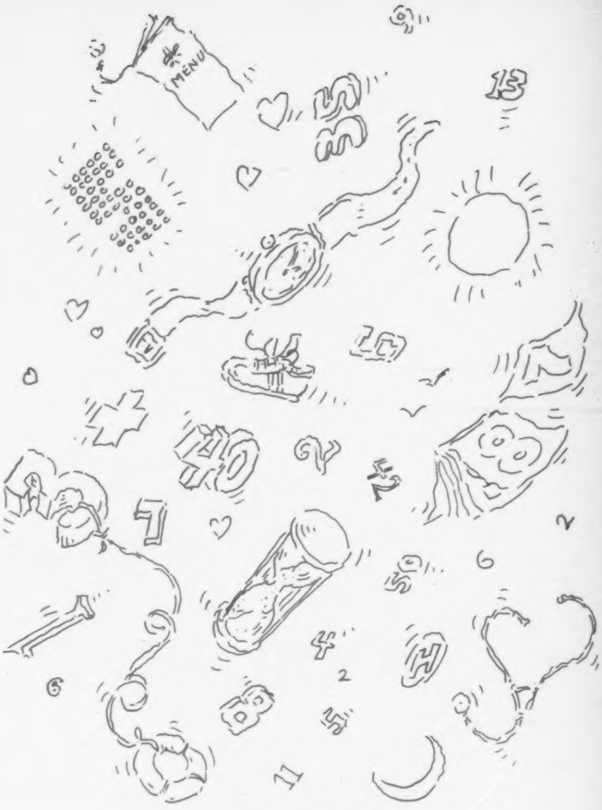
MY 7 TH

It's not fair to employees without children.

Surprisingly, consultants say they've encountered few examples of resistance from employees without children to corporate child-care assistance programs. Studies report that nonparents show little or no resentment about their employers' child-care programs.

Still, keep in mind that no employee benefit is going to be universally equitable, and that corporate child-care assistance will help reduce absenteeism, turnover, and recruitment problems—all of which burden nonparent employees from time to time. ☐

Ellen Wojahn is a Boston-based writer. Her most recent book is Playing by Different Rules *(Amacom), about the failed merger of Parker Brothers and General Mills.*



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National Cholesterol Education Program.
National Heart, Lung, and Blood Institute.

National Institutes of Health, Public Health Service, U.S. Department of Health and Human Services.

HANDS ON

A Manager's Notebook

FINANCE

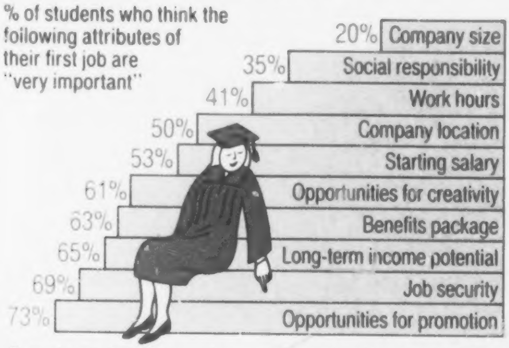
SWAPPING STATEMENTS

It's never easy to figure out which customers will pay your bills and which ones won't. However, Rick Johnson, CEO of BurJon Steel Service Center Inc., in Springboro, Ohio, has a strategy that helps. Whenever possible, he judges the creditworthiness of major prospective customers by examining their financial statements. How does he get to see them? By forking over BurJon's financials first.

"Usually, a company doesn't like to share numbers with suppliers," Johnson says. "Showing them ours makes it easier for them to show us theirs. They see we have loans to pay just like they do."

Johnson argues that the rewards far outweigh the risks of sharing statements. "Our numbers aren't going to tell our competition how to do anything. The risk is small compared with the benefit of finding out if the company we want to do business with is on solid ground." And, he says, financials are much more current than the traditional credit check.

WHAT STUDENTS WANT (FROM YOU)



Do you hire students? This may help you understand their thinking. In ranking expectations for their first job out of college, opportunity for promotion tops the list with 73% calling it a "very important" factor to be considered. The least important factors? A corporate sense of social responsibility (35%) and company size (20%).

Source: Roper Campus Reports, The Roper Organization Inc., 1988

COMPENSATION

BOOSTING PRODUCTIVITY, AND QUALITY TOO

While piecework payment systems can go far toward boosting productivity, too many CEOs have seen them lower quality at the same time. Does that mean piecework has to go?

Walter Riley, CEO of G.O.D. Inc., a Kearny, N.J., overnight express freight service, doesn't think so. Riley, whose business depends on speed, has kept his piecework program, but he has added incentives that specifically encourage quality.

Four years ago, Riley took his freight dock loaders off hourly wage scales and paid them for each shipment handled. Freight loss and breakage became epidemic. "All of a sudden, there were problems all over the place. This system just sped them up. The dock loaders thought, 'If there are mistakes, there are mistakes.' " So Riley changed the system: on top of the shipment rate, freight loaders get weekly bonuses of 25% of their total week's earnings if all shipments go through with no breakage, misloading, or short cartons. For a dock worker earning $600 per week, that means an additional $150. Some 85% of dock workers meet the weekly bonus requirements. Plus, dock loaders now double as critical quality checks throughout the whole freight-hauling operation, improving companywide productivity as well.

INSURANCE

THE REWARDS OF CLEAN LIVING

Taking a beating from rising health-care premiums? A cure may be in sight. An increasing number of insurers are offering plans providing hefty discounts to small companies that can show that their employees follow good health practices.

The Prudential, for example, will discount a health plan by up to 35% for companies with fewer than 500 employees. Each employee must complete a health and lifestyle questionnaire that asks about smoking, drinking, and eating habits. Whether a company qualifies for the discount—and by how much—is determined by the overall profile of the company's workers.

Another big insurer, The Travelers Cos., gives discounts of up to 13% for companies with 10 to 49 employees. And the John Alden Life Insurance Co. offers savings of up to 14% for companies with 25 or fewer workers; available now only in the South, the company plans to expand coverage early next year.

To encourage employees to adopt better personal-health practices, other insurers provide various educational materials and individual health-risk assessments. John Alden even offers toll-free telephone access to health-care professionals who will answer questions and refer callers to community resources and support groups.

PERSONNEL

CHECK IT OUT

Think you've finally found the perfect candidate to fill a position at your company? Be sure to check—and double-check—the information on the résumé in front of you. There's a 30% chance that something will be wrong.

According to Barrick Security Group, a San Mateo, Calif., firm that does corporate investigative work, some of those job applicants exaggerate their work histories, and others make exaggerated education claims. About 3% omit criminal violations.

How can you improve your odds of getting the truth? Barrick president Barry Bergman advises managers to have applicants fill out a standard job form—which should include questions about criminal convictions—and to make it clear that responses will be checked. You don't need those riders in order to do a legal follow-up, he says, but "putting people on notice makes it less likely that a degree in political science will become an engineering degree, or that three months at a previous job will become three years." ☐

CHARTS: CYNTHIA DAVIS

HANDS ON

MARKETING

AN OPEN (AND PRETTY) BOOK

If you are trying to convince big-company executives that you're big enough for them to do business with, consider speaking their language—by producing a four-color, glossy annual report.

CEO Gordon Lankton publishes one even though Nypro Inc., his Clinton, Mass., plastic industrial components manufacturer, is privately held. "It puts us in a different category from the job shop down the street," he says. "Big-company executives can relate to it."

Worried about keeping an open set of books? Lankton has been sharing numbers with customers and suppliers for more than 20 years and claims there has never been a problem.

Funny thing is, Lankton says, it isn't the numbers that get a reader's attention—it's usually the pictures. Other companies' executives glance through the annual report and see the pretty pictures, but obviously don't read the financials.

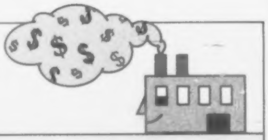
"Nypro has conducted a number of acquisitions," says Lankton. "Sometimes we find that the people don't even read the numbers but are impressed that a private company would release them." In Nypro's case, the medium *is* the message. ☐

QUOTE OF THE MONTH

> *'We're little; they're IBM. We had to be faster. There are only two kinds of people who dance with elephants—the quick and the dead.'*
>
> *—Mark Cuban, president of MicroSolutions Inc., a $10-million Dallas computer sales and support company whose responsiveness convinced Neiman Marcus to buy IBM PCs from MicroSolutions rather than from IBM itself*

SNAPSHOT:

SMALL·COMPANY FINANCES



Company size ($ sales/year)	Avg. borrowings ($ thousands)	Avg. short-term investments ($ thousands)	Avg. cash balance ($ thousands)
$50 - 74 million	$5,000	$2,500	$900
$20 - 49 million	2,400	1,878	1,062
$10 - 19 million	1,057	727	446
$5 - 9 million	561	455	301

Numbers above reflect the results of two 1987 surveys by Greenwich Associates of more than 19,000 companies with annual sales of $5 million to $74 million

RECRUITING

BRING YOUR FRIENDS TO WORK

Looking to cut both your recruiting costs and employee turnover? Maybe you should tap the folks who already make your company work—your employees.

At Integrated Microcomputer Systems Inc., a $20-million software development company in Rockville, Md., about 60% of its 400 workers have been hired through an employee referral program. The company's turnover rate is only 3%.

All jobs are posted at the company's seven client sites, and employees make referrals by filling out a standard form and attaching the applicant's résumé. If the applicant is hired and remains on board at least four months, the referring worker gets a bonus—from $300 (for administrative jobs) to $800 (for technical positions). The bonus for filling senior or skilled positions has been as generous as $1,000 and a personal computer.

Personnel specialist Tammy Besser says the program has made for a better work atmosphere. "People recommend people they want to work with, people they trust. Good employees tend to recommend people with similar characteristics." Relatives are especially welcome, as company president John Yeh's example attests. To date, he's hired three of his brothers, one sister, and two sisters-in-law. ☐

MANAGING PEOPLE

PERSONAL GOAL SETTING CAN MAKE A DIFFERENCE

Everyone knows that employees work better for bosses who care. But showing interest in people's nonbusiness lives—without appearing to intrude—can be tricky. However, at Computer Output Printing Inc. (COPI), a laser-printing business in Houston, CEO Andy Plata has an interesting approach. Every quarter, his 25 employees commit themselves to a set of objectives—and at least one of the goals must be purely personal.

The business objectives tend to be straightforward, says Plata—improving communications skills or learning how to operate a new piece of equipment, for example. But the personal goals are more diverse.

Recently, a few of Plata's employees said they wanted to slim down; another wanted to finish some home repairs; someone else wanted to help his child improve her grades. Over and above articulating their goals, employees are expected to set up steps for achieving them; progress is reviewed by a manager every 90 days.

The system has been in place for three years now, and Plata thinks it's made a difference in people's performance. "A lot of companies aren't interested in personal matters," he notes. "But we feel differently. When people feel successful in the rest of their lives, they're more apt to be successful in business." ☐

Reported by Leslie Brokaw, Teri Lammers, Martha E. Mangelsdorf, Bruce G. Posner, and Stephen D. Solomon

HOW TO RENEGOTIATE YOUR LOAN

A spate of successful lender-liability suits has made banks more receptive to well-reasoned proposals from struggling borrowers

BY ROBERT A. MAMIS

If there's a single thread that ran through Ronald O. Samarro's 25 years as a vice-president of banks, it's that the typical small-business borrower has little idea how to approach the typical small-business lender. Item: "A principal [behind on payments] would come in and dump a stack of papers half a foot high on my desk," Samarro recalls from tough tours of asset-based duty at such institutions as Irving Trust and Bankers Trust, "and then he'd stand there and say, 'Here's my company.' " "*I'm* supposed to do the spreadsheeting?" Samarro would complain.

His patience at last worn thin, Samarro departed the halls of lending (and of collecting) back in 1984 in order to help needy CEOs talk—and talk back to—bankers. Now, as president of Abbott Associates, a one-person (himself), five-computer loan arranger that services debt-plagued small businesses, he lectures to heads of $500,000- to $100-million companies seeking repair of loans: "Don't make the banker guess what you need; *tell* him what you need."

Speaking boldly is easy when you're Standard Oil, a lot harder when you're a $2.3-million company that failed to meet the covenants of a demand note on which $318,000 was outstanding—and which therefore was being demanded. The delinquency wasn't really his client's fault, Samarro told the lender. He explained that funds representing a $300,000 sale of nail-polish remover to Nigeria had been frozen due to a political squabble that nobody here could undo; therefore another $300,000 of customized inventory had to be written off as well—money that the company would have used to service the loan. That could happen to anybody, the bank concurred, agreeing to a six-month moratorium. With the bank's forbearance in hand, Samarro had time to soothe other creditors and bolster his client's rank in the cosmetics industry.

A few years back, that mission would have been impossible. Most banks with a troubled loan would have foreclosed, thrusting the debtor into liquidation. But a recent spate of successful lender-liability suits accusing banks of such self-concerned actions as wrongful termination and excessive control over borrowers has made lending institutions leery, lest even their shakiest customers turn around and bite the hand that stopped feeding them. Even if the covenants of a secured loan have been so severely violated that repayment has been judged hopeless, lenders remain open to propositions that will relieve them from pulling the chain.

Because judgments against them have reduced the communication of most bankers to a studied vagueness, the burden of specific solutions to a loan problem falls to the faltering business. All the better, since lender-liability leverage gives the business a good chance of prevailing. Bankers won't make trouble if the solution is handled right. Samarro's advice: "Prepare a formal business plan that you propose to operate under, so when you make the presentation it's crisp and makes sense."

TEN LARGEST VERDICTS, 1987*

Type of case	Verdict amount ($millions)
1. Lender liability	$129
2. Lender liability	105
3. Fraud in obtaining a loan	100
4. Product liability	95
5. Product liability	76
6. Breach of fiduciary duty or contract, fraud	70
7. Lender liability	60
8. Lender liability	59
9. Violation of state lending laws	53
10. Lender liability	50

*Single damages awarded by juries or judges, before any appeals or outside settlements.
Source: *Inside Litigation*, May 1988

Of the 10 largest verdicts in 1987, lender liability topped all categories, including product liability.

Unfortunately, small-business management may not have the internal expertise to determine which balance-sheet ratios are scaring the banker. Or it may be that the bank has become jittery over the level of trade debt the client is carrying, because it threatens its own ability to collect; of course, it doesn't dare say as much. The bewildered borrower is apt to interpret the downgrading of credit as a personal vendetta: I don't know why, but the guy just doesn't like me, so screw him *and* his bank. That, clearly, is the wrong approach. Better, Samarro's way: "Describe the situation honestly, seek their understanding, and ask them to cooperate."

When covenants start busting out all over, a banker's thoughts understandably turn to liquidation procedures. Action, not promises, is what counts now. "Go to bondholders and stockholders, and renegotiate the balance sheet. Set up a payment plan," Samarro urges, "and the bank will feel like continuing." Speed is crucial. The aim is to keep the operation going. More than once, Samarro has arrived on the scene after both the chief executive officer and his attorney had agreed that Chapter 11 was the only way out. But he showed them more palatable routes. A forbearance agreement from the lender and extended billing terms from suppliers, for example, often do the trick.

Obviously, the original financing package has to be scrapped, and a whole new deal constructed. The financial diagnosis of what ails the business and its recommended cure should be carefully printed and bound. There should be lots of charts and tables, accompanied by optimistic (but not unrealistic) commentary. "Then," says Samarro, "you've defused an alienated situation, and you've started to reestablish credibility with the bank."

A self-appraisal of company assets, for example, may disclose the possibility of remortgaging real estate. And if the bank will go along with allowing interest payments to be skipped until cash flow improves per projections, the *pro forma* future can be made to look a lot brighter. Indeed, new sources of funds may pop up. In one case, Samarro found an individual investor who was willing to participate in the loan with the bank when the bank refused to come up with all the needed funds. The bank was first secured lender, but, unsecured by assets, the outside co-lender was given warrants to take over the company if repayment came up short.

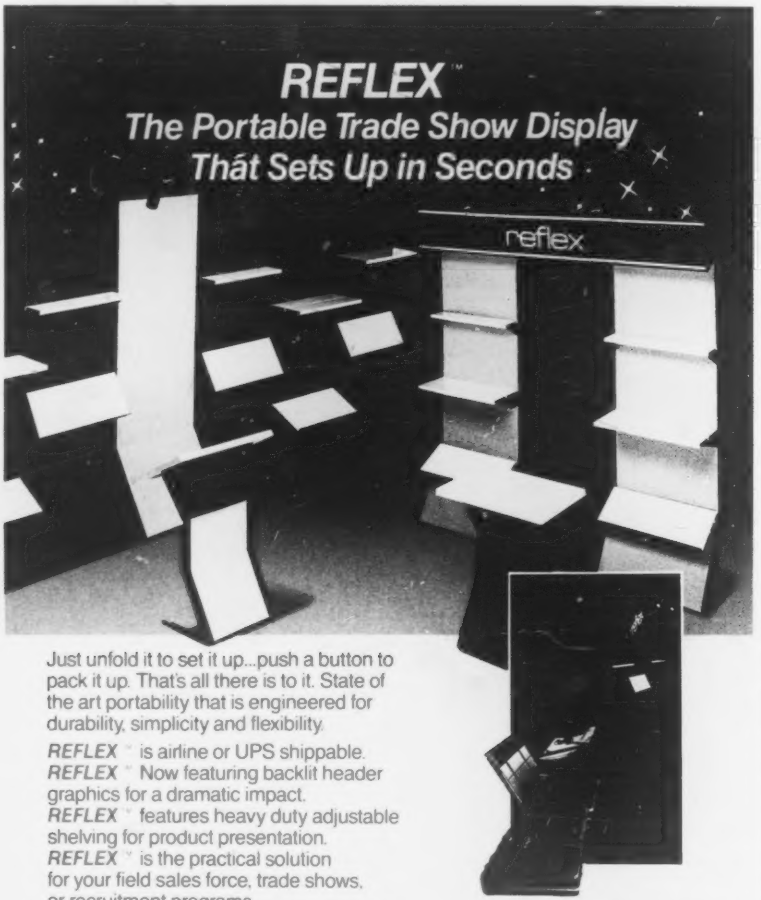
Samarro recommends projecting the components of assets month by month over the next three years—what accounts receivables are going to be, what the depreciated value of machinery and equipment will be, what comprises the customer list, what inventory consists of and how it breaks out by percentages, and so on. Then demonstrate in a cash-flow projection how the business is going to pay back not only the bank's loan, but every other creditor. By leaving no loan unturned, there's an implied obligation in so formal a presentation for the banker to respond with like alacrity. But don't trust the spoken word, warns Samarro. Put *everything* down on paper. "You can't rely on a banker to make his own interpretations. When he reports to his fellow bankers, he may not remember what you told him."

If the bank still threatens liquidation of the loan, implied meagerness of collection is always an effective forestalling tactic. It works not only among asset-based bankers, but with other aggrieved creditors as well. On behalf of a CEO who had misappropriated $750,000 of tax withholdings—a felony—Samarro was able to negotiate a five-year payback schedule with the Internal Revenue Service. "The IRS has little interest in pursuing an individual," he concludes. "Sure, they'll probably get their judgment, but then the poor guy will grow old and never pay. They're better off keeping the company alive and getting paid out of proceeds." When Samarro determined that a major reason why a company was having trouble servicing its debt was that it was being strangled by featherbedding, he put it to the union. "Here's your choice: either I close this place tomorrow and allow the bank to collect its money, or you get the extra men off the machines and let us live."

Oddly, the surfacing of a troubled obligation will occasionally call for a yet *larger* loan, rather than a schedule for reduction. "Give us more against what you've got," a bold CEO might plead of a secured lender selfishly tying up too much collateral. "You're asking me to hobble along with this piddling sum when you could restructure the loan and free me from creditors." In the light of lender liability, that plea is particularly telling, because if the company ultimately files for bankruptcy, it can sue the bank for sitting on an overabundance of collateral.

A banker may admit that the projections add up, but he just doesn't want to go along with the new deal. In which case, Samarro suggests, offer to find another lender to take out the loan-weary officer—but only if he promises to give you more time. Of course, you don't pay anything on the loan in the meantime. A *really* pushy borrower might even suggest that the banker write a bridge loan until the new lender comes on stream. If a take-out banker can't be found—indicating, of course, that the loan is questionable—try bargaining for forgiveness of part of the debt. "I might come back to that banker and say your judgment was right—you're in hot water," Samarro suggests. "The most I can raise on your collateral package is one-half the loan. If you forgive half, I'll give you half. Now isn't that better than liquidating? The problem could be there was too much debt to begin with. With the forgiveness of indebtedness, it's possible that the company can service the remainder and survive."

Not that asset-based lenders are apt to forget, Samarro says, but it can't hurt reminding a recalcitrant bank that come bankruptcy, "customers do not pay, inventory shrinks, liquidation values turn into a tenth of what they're represented to be, and you end up taking a *bigger* hit." At that stage, however, the odds drop considerably, since it's not apt to be the kindly loan officer who makes the decision, but the bank's workout unit—broadly perceived as a band of cutthroats whose sole pleasure in life comes in browbeating debtors. Once a loan-workouter himself,



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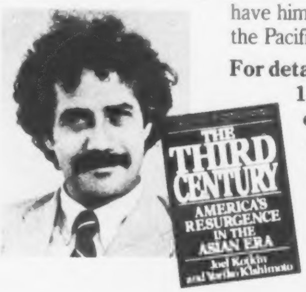
THE THIRD CENTURY
AMERICA'S RESURGENCE IN THE ASIAN ERA
Joel Kotkin and Yoriko Kishimoto

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CATCHING UP

What to do with a seriously delinquent asset-based loan

Your strategy should be to come up with a *written* repayment plan—don't rely on verbal communication—that shows your bank it does not have to liquidate. Here are tips from ex-banker Ronald O. Samarro:

- **Explain what the problem is and spell out a solution. Quickly.**
- **Review your assets from the bank's point of view. Can real estate be remortgaged? Has accounts-receivable turnover improved?**
- **Make the bank comfortable. Negotiate payments with other creditors; subordinate old debt; revamp your balance sheet.**
- **Ability to service debt is a key factor. Give the bank performance standards to track. Detail cash flow month by month.**
- **Restructure your loan, and spell out what you need. If you have to take less, reorient your plan to the lesser amount. Scale down sales, if need be, to take pressure off other parts of the business.**
- **Ask for forbearance, such as payment of interest only, or of principal only, for a 12-month period.**
- **Ask for forgiveness of part of the loan if, with lessened debt, company can survive. Remember, a banker would rather get 50¢ on the dollar than a dime.**

Samarro doesn't disagree. "Workout guys can be very difficult. But you have to understand their point of view. By the time a loan gets to workout, management has created a credibility gap: 'Sure, we're getting more sales; yes, we'll pay you this month.' Then they keep failing to deliver, and the bank gets disgusted."

If the business can't be rescued after all this, the CEO himself will likely need help paying off the bank, so that he doesn't get sued for personal guarantees. Even here there are techniques to wind down a business, says Samarro, such as getting on the phone and collecting payables, so that in the business's last gasps, cash trickle is channeled into paying down the loan.

What, at his asset-lending heart, is Samarro's *real* secret? "It's that no credit man wants to accept 10¢ on the dollar after writing 100," he admits. "The loan officer went on the line that the company's credit was good. Suddenly he has to go to his superiors and admit he made a mistake? You tell him, 'Yeah, it was a mistake—but here's how to get it back.' " ☐

GETTING TO KNOW YOU

How to get your people working like a team

BY JAMES E. BERNSTEIN, M.D.

How many times have you driven home at night with a gnawing feeling in the pit of your stomach because one of your key people is disgruntled for who-knows-what reason? And who among us hasn't spent endless hours fixing people's bruised egos or injured psyches after a harmless offhand remark has festered and done its damage?

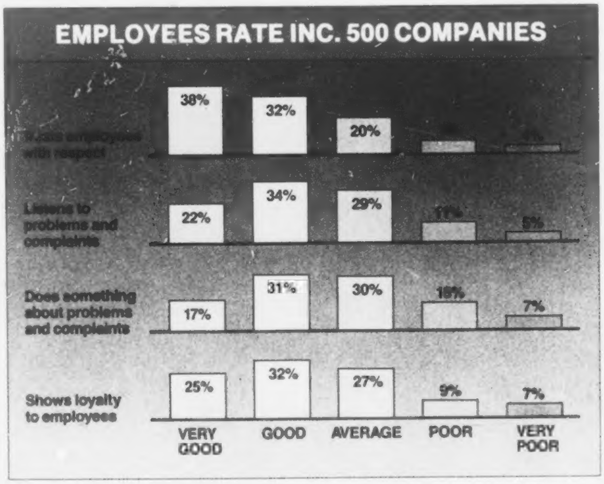
Over the past 12 years, I have tried many different approaches to keeping people enthusiastic and energized by their work—and not in my office for repairs. About a year ago, a friend who is the chief executive officer of a rapidly growing company introduced me to a technique that I've found remarkably successful. It involves nothing more than formally structuring time so that you and other members of your team can discover what makes one another tick. It's amazing how one person's seemingly trivial actions can have such profoundly negative effects on someone else. Equally amazing is how people change their behavior once they're aware of one another's hot buttons.

To illustrate both the problem and the technique, I'm going to use a couple of real examples from my friend's company.

THE SYMPTOMS

Linda, the controller, left work depressed, demotivated, and upset. She had worked until past 3:00 a.m. three nights running, polishing up the company's forecasts—and the CEO had dressed her down for being a day late with the reports. Sure, she could have warned him that her analysis was a day behind, but he must have known how profoundly she cares about the company and how much she worries about meeting cash-flow projections. The next morning she dragged herself out of bed and drove to the office with a leaden feeling, turning over in her mind her letter of resignation.

How many times have you seen these mornings after? The problem is, you usually don't know what happened or why. All you know is that one of your employees seems down. And you hope whatever is bugging him or her will go away.



Fast growth can be hard on employees. The ratings above are from our 1987 survey of INC. 500 employees.

DAVE HANNUM

Bob sat stony-faced by the telephone, glaring at his watch. It was 10 minutes past three o'clock. The CEO had said he would call back at three. Bob had been at the company four months as executive vice-president, and everything had been going well. Now, he was uneasy. Wasn't his work any good? He had thought that he could trust the CEO. Now, he wasn't sure. After all, when you say three o'clock, that's three o'clock. When the phone rang shortly after four, Bob answered it in an icy, flat tone. He had a hard time discussing the major contract he was negotiating. He was furious and disappointed.

Again, how often have you been puzzled by a response? You haven't a clue as to what provoked it, and you get a twinge of anxiety, guilt, or anger depending on how the rest of the day has gone.

THE CURE

Most people, if asked, will freely tell you what propels them to new heights of achievement and what turns them into listless, enervated drones. And most people, if they know what moves and what slows their fellow workers, will make the effort to treat them with care. The trick is to make sure the exchange takes place. Here's what I've found works best.

Gather together a small group—it could be your managers, your board, or a work team, but should be no more than 10 people—for a meeting away from the office. Make sure that you take enough time for people to relax and let their hair down a bit. Provide refreshments, but require no advance work, no handouts, and no flip charts. You'll want people to volunteer—maybe you'll even go first—to answer the following questions with complete candor.

Why do you work here? What do you get out of your work? What are your aspirations?

What are the behaviors, actions, or circumstances that make you motivated, energized, and happy with your work?

What are the things that people do that dampen your enthusiasm, that make you angry or depressed?

When faced with these questions, both Linda and Bob were frank.

Linda: "You know, for me it's very simple. I love this company. I think what it's doing is great. I think the people who work here are committed and really terrific to work with. That's why I work here. Nothing fancy or heavy about it. You want to know what turns me off—takes the wind out of my sails and leaves me dead in the water? Just doubt whether I care, or don't recognize how committed I am. When you chew me out for being late with something and imply I don't take my job seriously, I'm finished. I don't function for days after something like that. I can't give you something that isn't right. It might have serious consequences for the company I love. But if I get just an inkling that I'm appreciated, I'll work all night and still be smiling the next day."

From then on, everybody understood the key to keeping Linda on an even keel. When she was late, instead of doubting her commitment, the CEO made sure she knew how important getting a particular job done was to the company's success. And he found that a little praise went a long way.

Bob: "I came to work here because of the culture

BORROWING FROM YOUR COMPANY

. . . plus travel deductions, interest deductions, and a tax on retained earnings

BY IRVING L. BLACKMAN

COMPANY LOANS

Before you or other shareholders borrow from your company, you should realize that, from a tax standpoint, a whole list of rules comes into play.

One that can create a tax disaster has to do with below-market interest (BMI) loans, those that charge no interest or interest below the current market rate (CMR). The difference between the CMR interest and the BMI interest is called "forgone interest." Though it is a fiction, it is treated as a dividend to the shareholder, who is then considered to have paid the forgone interest back to the corporation.

Generally, the shareholder can deduct only 40% of this imputed interest in 1988 (see "Interest Deductions," right). And the corporation is stuck with interest income from the imputed interest and a nondeductible dividend from the foregone interest.

To avoid this problem, *make your loans at market rates*. But that's only rule number one.

Also, execute legally binding notes for all advances. Indicate the required interest rate on the face of all notes evidencing the loan. Specify the repayment dates and make payments when due with a personal check. Do not make offsetting book entries. Provide security, if possible. If loans are made to more than one shareholder, do not make the loans in proportion to the shareholders' interest in the corporation. Finally, enter the transaction on the corporate books as a note receivable from its inception and so state in the corporate minutes.

INTEREST DEDUCTIONS

Here's a summary of what you can deduct:

□ **Business interest.** You can deduct 100% of interest on business debt.

□ **Mortgage interest.** The interest on mortgage loans of up to $1 million and an additional $100,000 of home equity loans is fully deductible. Interest on debt greater than these amounts is considered consumer interest (see below).

□ **Investment interest.** This is the interest you pay to carry investments, such as interest on a margin account to carry stock and bond investments. You can deduct the investment interest, but only up to the amount of your investment income, which includes dividend and interest income and profits on the sale of securities. Investment interest deductions are being phased out, as follows: 40% can be deducted this year; 20% for 1989; 10% for 1990; and 0% for 1991 and later.

□ **Consumer interest.** Interest that does not fit into one of the above categories is considered consumer interest, and includes such items as interest paid on a student loan, an insurance loan, credit card balances, or to the IRS. Consumer interest is being phased out at the same rate as investment interest (see above). □

TRAVEL DEDUCTIONS

A rundown of post–tax-reform deductions for travel:

□ **Business travel.** Business trips are fully deductible (except expenses for meals and entertainment, which are 80% deductible). You can deduct the cost of your spouse's travel only if his or her presence has a real business purpose—such tasks as answering the phone or typing won't do. Examples of what works: if you jointly own the business, or if the trip is to a country where you spouse speaks the language and you don't.

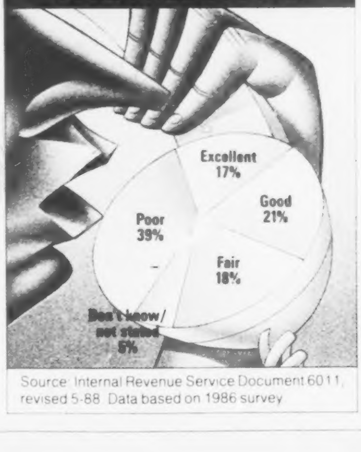
□ **Luxury water travel.** Special rules apply to business travel by ship. You can deduct twice the highest daily allowance for U.S. travel by federal government employees, which is currently $126. That gives you a deduction of $252 per day. The 80% rule for meals and entertainment doesn't apply if these expenses are not itemized on your tab for the cruise.

□ **Travel for education.** If the cost of a business-education seminar is deductible, so is the cost of getting there and back. (Only costs of seminars relating to your trade or business are deductible, which excludes investment seminars.)

□ **Travel for charity.** You can claim a charitable deduction for the cost of traveling on behalf of a charitable organization. But the deduction is barred if the trip involves a significant element of personal pleasure, recreation, or vacation. If a trip qualifies, all related costs are deductible, including 100% of your meals.

□ **Travel for medical reasons.** You can deduct the cost of travel for medical reasons, but only if your medical expense deductions exceed 7.5% of your adjusted gross income. When a patient is too young or too ill to travel alone, the cost of a traveling companion is deductible. Meals are not deductible, and lodging expenses, if essential to receiving medical treatment, are limited to $50 per night. □

PAID TAX PREPARERS' RATING OF IRS TOLL-FREE SYSTEM



Source: Internal Revenue Service Document 6011, revised 5-88. Data based on 1986 survey

A SUCCESS TAX

The IRS frowns on closely held corporations that it suspects are being used to prevent income from flowing to shareholders as dividends, which brings us to the Accumulated Earnings Tax.

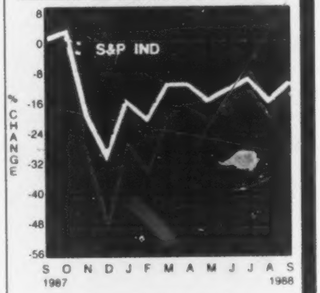
If your corporation has "unreasonable" accumulated earnings, the penalty tax is 27.5% on the first $100,000 over $250,000 and 38.5% on the remainder, in addition to the regular corporate income tax.

What's unreasonable? Every corporation is allowed accumulated earnings of $250,000 ($150,000 for personal-service corporations). Even if you're over this allowable minimum, you still may get out of the tax if you can show that the earnings were accumulated for reasonable business needs. Like many areas of the tax law, the answer turns on the particular facts and circumstances of each case. □

Irving L. Blackman, specializing in closely held businesses at Chicago-based Blackman Kallick Bartelstein, certified public accountants, speaks and writes on tax issues.

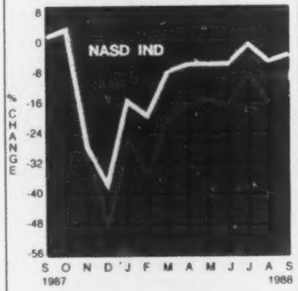
INVESTING IN GROWTH COMPANIES

INC. vs. CONSERVATIVE AVERAGES



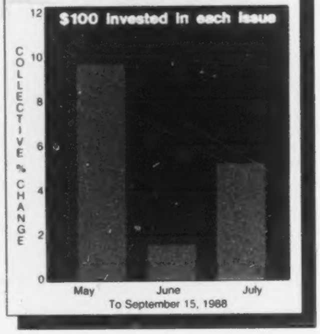
All averages start at 0 in September 1987

INC. vs. SPECULATIVE AVERAGES



All averages start at 0 in September 1987

IPOs IN THE AFTERMARKET



To September 15, 1988

INITIAL PUBLIC OFFERINGS: AUGUST 1988

O-T-C sym.	Company	Business/product	Offering Size ($mil.)	Offering Price	First aftermarket bid	Underwriter
AOF[a]	**ACM Government Opportunity Fund**	Real-estate investment trust	115.00	10.00	10	Shearson Lehman
ACI[a]	**Ashland Coal**	Coal mining	40.62	11.00[c]	10¾	Merrill Lynch
AUIN	**Automotive Industries**	Acquires car service cos	7.50	2.50	2½	F. N. Wolf
BMCS	**BMC Software**	Dvlps. software	27.00	9.00	8⅝	Alex. Brown
BHO[b]	**B&H Ocean Carriers Ltd.**	Owns & operates bulk carriers	60.00	15.00	14¾	Merrill Lynch
LPTVU	**Channel America LPTV**	Owns & operates TV stations	3.00	6.25[d]	6½	Hibbard Brown
CFED	**Charter Federal Savings Bank**	Savings bank	3.75	10.25	10½	Ryan, Beck
HIS[a]	**Cigna High Income**	Closed-end fund	100.00	10.00	10	Merrill Lynch
ECGI	**Environmental Control Group**	Provides asbestos-abatement svcs.	16.31	11.25	11⅜	Alex. Brown
FFFC[a]	**Franklin First Financial**	Bank holding co	27.94	8.50	8½	Drexel Burnham
FALI	**Fund Alabama**	Investment management	7.00	10.00	10	Sterne, Agee
GLI[a]	**Global Income Plus**	Closed-end fund	210.00	10.00	10	Paine Webber
YLT[a]	**High Income Advantage**	Closed-end fund	200.00	10.00	10	Dean Witter
HPBC	**Home Port Bancorp**	Bank	5.26	8.00	8	Merrill Lynch
IHHIU	**In Home Health**	Provides home health care	1.88	1.25[e]	1⅜	L'Argent Securities
IGF[a]	**India Growth Fund**	Closed-end fund	60.00	12.00	11¾	Merrill Lynch
KILE	**Kile Technology**	Designs & mfrs transformers	2.60	3.50	3¾	Apple Financial
KIND	**Kinder-Care Learning**	Operates day-care centers	42.00	7.00	7	Alex. Brown
KE[b]	**Koger Equity**	Real-estate investment trust	160.00	20.00	20	Dean Witter
LICF	**Long Island City Financial**	Savings & loan	8.11	12.00	14	Merrill Lynch
MFFC	**Mayflower Financial**	Savings & loan	2.25	7.50	8½	Ryan, Beck
NERX	**NeoRx**	Dvlps. pharms	17.50	7.00	7¼	Kidder Peabody
NVLS	**Novellus Systems**	Mfrs. vapor-distr. systs	15.20	8.00	8¼	Bear Stearns
RIF[b]	**Real Estate Securities Income Fund**	Closed-end fund	24.00	10.00	10	Drexel Burnham
RNX[a]	**Rexene**	Mfrs. & mkts thermoplastics	129.00	21.50	22⅛	First Boston
HAMS	**Smithfield Companies**	Produces & mkts. food products	5.96	9.50	9½	Investment Corp. of Virginia
STOT	**Stotler Group**	Brokerage firm	4.95	11.00	10½	R. G. Dickinson
SNPX	**SynOptics Communications**	Designs, mfrs., & mkts. computer networks	20.25	13.50	14½	Morgan Stanley
TIS[a]	**TIS Mortgage Investment**	Closed-end fund	76.00	10.00	10	Prudential-Bache
UTRX	**Unitronix**	Distr. & mkts computer equip.	3.50	5.00	5⅜	Gilford Securities
VMT[a]	**Van Kampen Merritt Municipal Income Trust**	Closed-end investment co.	240.00	10.00	10	Prudential-Bache

Initial public offerings sold at $1 or less not included. First aftermarket bid is approximate. [a] trading on NYSE; [b] trading on AMEX; [c] an additional 923,100 shares were offered overseas; [d] units of 4 common + 2 warrants; [e] units of 1 common + 1 warrant. Offering data source: *GOING PUBLIC: THE IPO Reporter*, a publication of The Dealer's Digest Inc., 150 Broadway, New York NY 10038.

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AMERICA'S FASTEST-GROWING PRIVATE COMPANIES

Abington Steel (448)
ABS (327)
Academic Guid ces (84)
ACCEL Courier 330)
Access (498)
Accutest Labor 9)
Action Awards (
Action Systems gies (103)
Ad Dimensions 230)
Adept Technolo
ADM Video Pro 58)
Advance Digita n (117)
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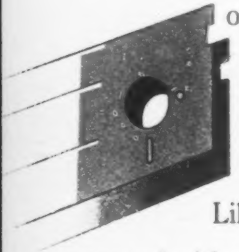
THE 1988 INC. 500

AMERICA'S FASTEST-GROWING PRIVATE COMPANIES

IN PRAISE OF GROWTH

It happens every year. Each December, INC. lists the 500 fastest-growing privately held companies in America.

And each December, some hapless writer is assigned the job of finding fresh, new ways of describing these companies' accomplishments.

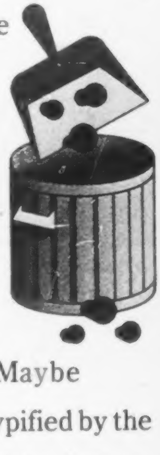


This year the writer was me.

Like my colleagues before me, I started with visions of thumbing through the thesaurus in search of synonyms for "explosive" (as in growth) and "heroic" (as in achievement). Of dreaming up yet another way to explain the meaning of an 82,168% growth rate. Of piling adjective upon adjective in a desperate attempt to make this year's list of laureates sound even more impressive than last year's (and, of course, to make my prose sound more impressive than my predecessor's).

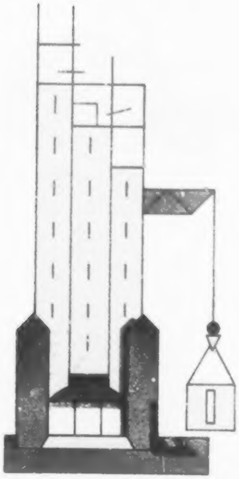
But discretion, I decided, was the better part of valor.

Who needs adjectives? The facts about the INC. 500 are startling enough. Besides, there's a pressing issue raised by our annual listing of the 500, and it usually gets lost amidst the hyperbole. If we give up on finding ever-more-clever ways to praise these high-flying companies, we can take a closer look at whether a listing on the INC. 500 is such a shining symbol of success after all.



For the entrepreneur, this is a matter of some concern. Maybe warp-speed growth of the sort typified by the 500 is not only risky but downright dangerous. Maybe, as more than a few businesspeople have argued over the years, INC.'s lists

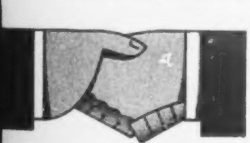
ILLUSTRATIONS: MARK FISHER



glorify growth at the expense of good management, good products, and, most of all, good profits.

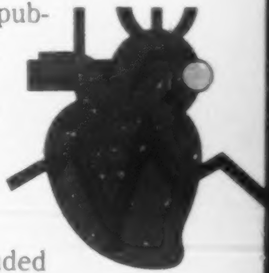
Maybe—let's be blunt—aiming for a spot on the INC. 500 is no way to run a business.

To make the list, no doubt about it, a company has to grow *fast*. Up at the top, where hotshots like American Central Gas Cos. (#1) find their place, the percentages dazzle the imagination (see "Cookin' with Gas," page 76). But look way down at the bottom, the cutoff point, occupied this year by Atrium Medical Corp. (#500). Atrium's revenues rose 638% from 1983 through 1987, a 65% compound annual growth rate. Plenty of entrepreneurial companies can hit that figure for one year. A few can do it for two. But to make the INC. 500 a company has to sustain the pace for a full five years.

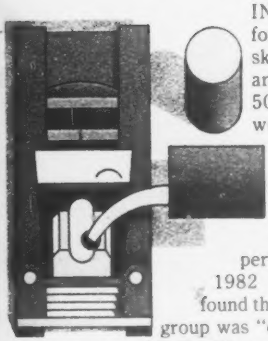


But, critics charge, it's just this kind of growth that can be hazardous to a company's health.

For starters, they point to the INC. 500's always-shaky profitability figures. Each INC. 500 shows fully half the companies currently reporting return on sales of between 1% and 5%—less than my kids earn on their passbook savings accounts—while another 50 or so companies report break-even or loss. When *Business Week* began its own listing of (public) growth companies a few years ago, it pointedly called its list "the best small growth companies"—*not* the fastest-growing—and included profitability among its criteria for inclusion. By comparison, too many 500-style companies seem to be living out the old saw about selling at a loss and making it up in volume.



Then there's the what-goes-up-is-pretty-damn-likely-to-come-down theory. Your



company's on the INC. 500? Bully for you, says the skeptic. The odds are better than 50-50 that you won't make it again. When INC. columnist David L. Birch tracked the post-listing performance of the 1982 INC. 500, he found that nearly half the group was "extremely unstable," with periods of decline regularly following periods of growth. At times explosive growth covers up truly fundamental problems. Even as the #1 company of a few years ago, Herbalife International Inc., was topping the list, it was coming under blistering attack by regulatory agencies for false advertising. At last report it had shriveled to one-third its peak size.

Fast growth is not only evanescent, argues management theorist Peter Drucker, it actually makes a company weaker. "Growth at a high rate and for an extended period is . . . anything but healthy," he writes in his classic text *Management*. "It makes a business—or any institution—exceedingly vulnerable. It makes it all but impossible to manage it properly. It creates stresses, weaknesses, and hidden defects which, at the first slight setback, become major crises."

Drucker's grave conclusion: "There are few exceptions to the rule that today's growth company is tomorrow's problem."

Before we climb on this bandwagon of caution, however, let's take a moment to ask if there isn't a reason for listing, writing about—yes, even celebrating—growth. Not careful, well-managed growth. Not growth with profits. Just hard-driving, pedal-to-the-metal, INC. 500–style *growth*.

From a macroeconomic standpoint, it's an easy case. As Birch and others have shown, it's the fastest-growing companies that create the jobs—more and more of them every year. "The percentage of job growth attributable to the fastest-growing 5% of companies," says Birch, "is going up, not down." The effects show up in a state such as Georgia, #6 on INC.'s ranking of the states in October, and home of 22 INC. 500 companies this year, up from only 10 five years ago. From the economic-development perspective it scarcely matters that a fast-growing company's jobs may be something less than permanent. Any booming business stimulates a local economy, encouraging other companies to start up or expand. The process can continue even if a few of the highest flyers take nosedives.

From a manager's standpoint, the case for unbridled growth may not seem so obvious. But by many measures a rapidly growing company is succeeding better than any other business, big, small, or in-between.

A fast-growing company by definition is satisfying a market that was unsatisfied before. If the purpose of a business is to create and keep customers, as Harvard Business School's Theodore Levitt argues, then companies like those on the 500 are fulfilling that fundamental purpose every day, in spades. What's striking about this year's list is that they're creating customers in all kinds of industries, all over the map. Adept Technology Inc. (#8) may be the most consistently profitable U.S. robotics company, even exporting its robots to Japan (see "The Growth Ethic," page 118). Just Fish Inc. (#392), in Winslow, Wash., produces and markets seafood products; SCR Coaches Inc. (#315), in Fargo, N.D., provides tow, travel, and bus services. Forty-four states and the District of Columbia have at least one company on the list; 17 of those have at least 10.

Frequently, fast growth is the only way a company can establish and protect a market. The heart of entrepreneurship, after all, is innovation: offering a new product, a new service, or a new combination of price and value. But in this age of high-speed travel and instant communication, any innovation that works will soon have a host of imitators, some bigger and better financed than the pioneer.

In such a situation, says Rosabeth Moss Kanter, author of *The Change Masters*, "rapid growth may be something you have no choice about. You either grow explosively, meeting all the demand, or the competition comes in to meet it." That's an observation sadly ignored by Remington Rand Inc., which introduced computers to the world back in the 1950s only to be overtaken by a much more aggressive IBM Corp. But it's a point well noted by West Coast

LESSONS FROM THE LIST

INC. asked a handful of business and economic experts to cast their educated eyes over the 500s of the past few years. What did the listings tell them about where our economy is headed? What did they find surprising, or worrisome, about the companies that made the lists? Some responses:

ROBERT B. REICH, author, *Tales of a New America*:

"The decline in the growth of telecommunications—only 2% of the list this year as opposed to 5% in 1983—concerns me. Telecommunications lie at the heart of information technology. If growth here is slowing down, we need to be concerned about growth in the rest of the economy over time.

"On the positive side, growth in the industrial belt—Michigan, Pennsylvania, New Jersey—is up. This is part and parcel of a resurgence of American manufacturing, and may be the harbinger of a renaissance in industrial America."

JAMES O'TOOLE, editor, *New Management* magazine:

"I'm impressed by the range of goods and services offered by these companies. At the same time, many of them seem to be in construction, retailing, services—the industries that don't have to compete with foreigners. If there's a worry here, it's that.

"One of the longer-term patterns we're seeing is that fewer employees are now generating larger sales. So productivity is as much an issue in these businesses as it is in the *Fortune* 500. Since what we really need are increases in productivity, that is good news."

ROSABETH MOSS KANTER, author, *The Change Masters*:

"These companies are clearly taking advantage of the opportunities created by social and technological change. But what you see here is the rapid-start phenomenon. Most of them are fairly new and are likely to reach some kind of natural limit to their growth.

"Once a company reaches that limit, it has to ask how do we get new products, how do we hold the market we've got, how do we transmit our values to this larger group of employees. It isn't easy—Nike, for example, temporarily lost sight of the social and technological changes that gave it its start. Nike invented running, but it missed aerobics and had to catch up."

Video Ltd. (#4), which expanded very quickly in the nascent video-rental industry by learning to franchise its expertise. As it happens, West Coast is already pleasantly profitable, reporting returns in the 11% to 15% range. But even if the economics of the industry had been different—even if founder Elliot Stone had had to sacrifice profits for a longer period of time—the investment might have been worthwhile. In a booming market, growth is the only measure of success.

In the end, the argument over growth comes down to cases: some companies may grow too fast, others not fast enough. And granted, it's never an all-or-nothing proposition. Even the fastest-growing companies will reach a point—Kanter calls it the "entrepreneurial crisis point"—when they have to pay as much attention to costs and quality as to market share. A business eventually needs profits to survive.

But before we all get out our spreadsheets, let's not forget that business isn't all P&Ls. One of the glories of privately held companies, in fact, is that the bottom line can stay at the bottom, and that the people who run those companies don't have nervous pension-fund managers looking over their shoulders.

In this light, so what if you sacrifice some of your company's profits to growth? Growth is fun. When a company's growing, there's an air of excitement each day, a common sense of opportunity, expanding horizons, and boundless futures. And there's reality behind those feelings. Young people who begin at entry-level jobs find themselves running a division a year or two later. Workers learn new skills; managers take on new responsibilities; employees with entrepreneurial gifts learn how to use them. People pull together rather than pursue their own interests.

The results can only be beneficial. "A firm is never static—it is either growing, or stagnating," writes Tom Peters in *Thriving on Chaos*. "Stagnation . . . is enervating, negatively affecting every element of the firm. Excitement (growth) spurs performance; contraction doesn't." Birch, for his part, points out that while growth is often followed by decline, stagnation is often followed by failure.

Maybe growth can't go on forever. And maybe it is risky. Does that mean we shouldn't celebrate it—and the companies, like this year's INC. 500, that have proven themselves so adept at it?

Not for my money. I'm not prepared to argue that every company should aim at finding itself, some day, on the INC. 500. But I am prepared to hand it to those who do. *—John Case*

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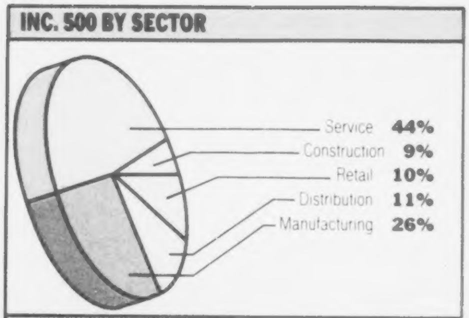
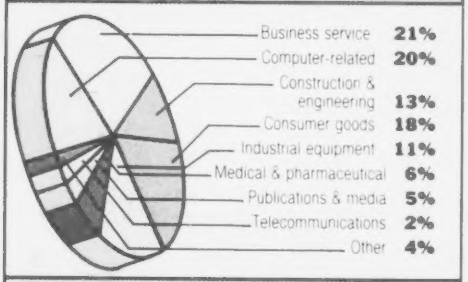
AT A GLANCE

INC. 500 BY SECTOR



INC. 500 BY INDUSTRY



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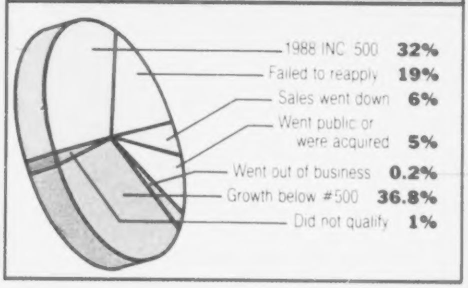
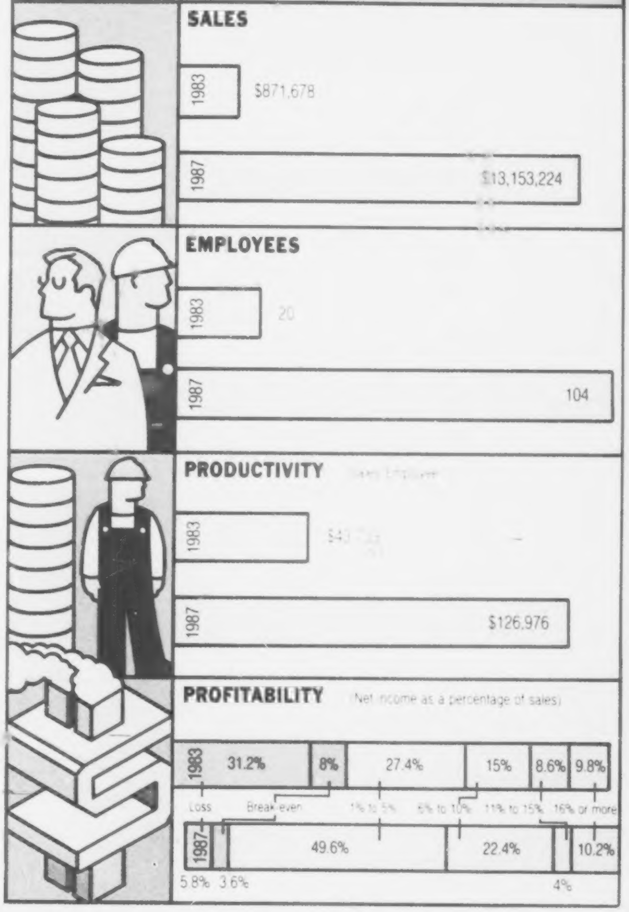
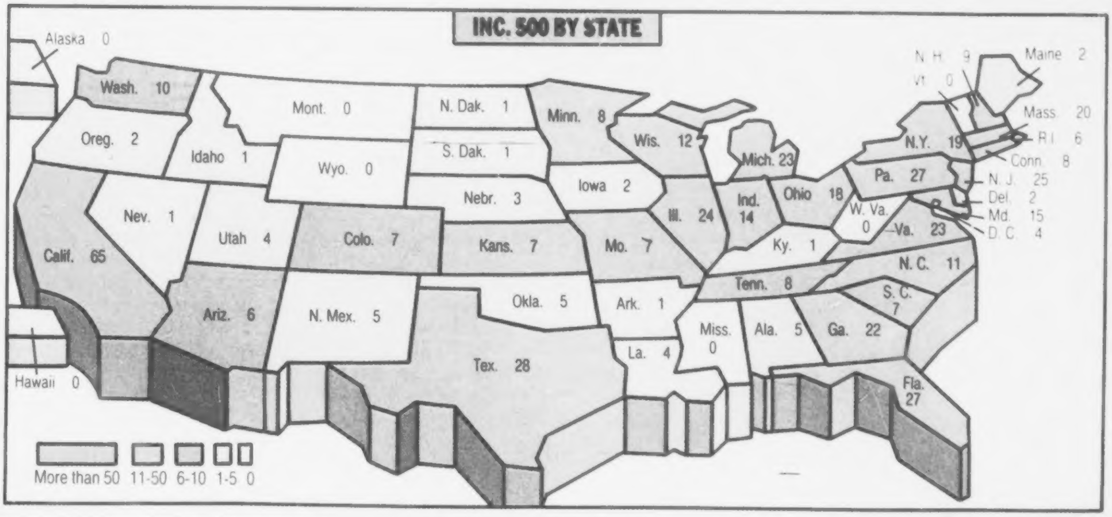


HISTORY OF GROWTH: THE AVERAGE INC. 500 COMPANY



INC. 500 BY STATE


Alaska 0
Wash. 10
Oreg. 2
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Wyo. 0
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Interactive Business Systems (258)
Intergroup of Arizona (380)
International Galleries (349)
J-B Wholesale Pet Supplies (447)
J.C. Beal Construction (474)
Jenny Craig Weight Loss Centres (6)
Jeta Power Systems (32)
J.H. Benedict & Associates (445)
John B. Sullivan Jr. (453)
Jones & Neuse (428)
J.P. Rhoades Development (21)
J.R. Abbott Construction (202)
J.T. Schrimsher Construction (378)
Just Brakes & Affiliates (467)
Just Fish (392)
J.W. Gardner (140)
Kaminari (323)
Karmak Software & Computer Svcs. (384)

Kaselaan & D'Angelo Associates (332)
Kenex Systems (129)
Kenfil Distribution (105)
Key Nursing (476)
Key Resource Group (186)
Kitchen Etc. (472)
KOH Systems (413)
Krieger (404)
KTI (43)
Kultur Video (277)
KVH Industries (176)
La Quemazon Wholesale (213)
Landair Transport (399)
Landmark Hotel (78)
Law Auto Sales (414)
Leather Center (141)
Lely Development (394)
Libertyville Lincoln/Mercury (256)
Life Design Systems (423)
Lighthouse Communications Group (180)
Little & Co. (339)
Logicraft (232)
Logistix (65)
Magna Software (151)
Manitowoc Custom Molding (301)
Marathon Printing (372)
Marketing Masters International (479)
MarketVision Research (470)
Mayfair Computers (294)
McCaren Designs (328)
MCF Machine (289)
Media Cybernetics (432)
MediQual Systems (57)
Metech (122)
Metro Pace Construction (119)
Michigan Paper (33)
Micro Specialist (157)
Microdynamics (260)
Micrografx (265)
MicroProse Software (72)
Microserv Technologies (111)
Microsolutions (85)
MIDA Dental Plans (254)
Mid-Atlantic Medical Svcs. (90)
Millrock (365)
MMS International (430)
Mobile Technology (74)
Molly Maid (273)
Mona, Meyer & McGrath (243)
Montalbano Builders (303)
Morris & Raper Realtors (261)
MPM (436)
Murphy & Associates (483)
National Communications (146)
National Independent Business (293)
National Systems & Research (287)
NCO Financial Systems (389)
Neoterik Health Tech. (145)
Network Controls International (161)
Network Rental (368)
N.H.S. (215)
North American Roofing (255)
N.T.B. Fastening Systems (421)
Numismatic Investments of New England (246)
O/E Automation (245)
Office Solutions (101)
Oil Express (341)
Oldenburg Group (172)
Omega Printing (464)
Oneida Asbestos Removal (324)
Optical Disc (107)
Orbital Sciences (2)
Original Copy Centers (264)
Ortel (149)
Ortho Management Systems (477)
O'Ryan Industries (391)
Osburn Associates (160)
Oscor Medical (79)
Ovation Marketing (333)
Pacific Union Dental (89)
Pacifica Services (38)
ParaData Computer Networks (379)
Park Cardiographics (228)
Parkman (240)
Paul Sebastian (133)
Penn Lyon Homes (462)
Pennsylvania Computer (238)
Performance Coatings (437)

Perma-Chink System (425)
Persoft (97)
Personal Computer Centre (443)
Peter Norton Computing (136)
Phoenix Marketing Group (77)
Phoenix Textile (198)
Physician Sales & Service (302)
Physician's Weight Loss Centers (388)
Pizza People (491)
P.J. Marketing Services (272)
Planning Analysis (382)
Playsystems (461)
Plow & Hearth (275)
Popcorn Palace & Candy Emporium (231)
Post-Tron Systems (190)
Practice Management Systems (158)
Presentables-Cinzia (204)
Prestage Farms (300)
Prestige Products (385)
Pretty Punch Shoppettes (314)
Prima Die Casting (274)
Prime Technology (174)
Princeton Review (106)
Produce Plus (147)
Professional Business Schools (234)
ProKnit (75)
Protel (351)
P.T. True & Associates Development (183)
Public Interest Affiliates (135)
Puller Mortgage Associates (187)
Purity Sales (110)
Quad Systems (19)
Quadratron Systems (64)
Quad-S Consultants (203)
QualPro (80)
Quick-Flight Stair (318)
Quicksilver Express Courier (177)
Quinn Data Products (54
Rapco International (113)
R.B. Associates (343)
Read (109)
Real World Systems (102)
Reflections Jewelers (242)
Reider Racing Enterprises (247)
REMA Bakeware (93)
Research Analysis & Maintenance (86)
Resource Management International (46)
Richard Young Products (170)
Richardson Turner Construction (283)
Ridge Electric (192)
RJE Communications (118)
RJO Enterprises (56)
Roddy Temporary Svcs. (241)
Rossin, Greenberg, Seronick & Hill (262)
RPM Rent-A-Car System (340)
RPR & Associates (37)
R.S. Young Excavating (205)
Ruby Restaurant Group (367)
Rue de France (257)
Russell Construction (48)
Sales Technologies (30)
Santa Cruz Operation (334)
Schiffer Mason Contractors (369)
Schlott Realtors (418)
Schuler & Sadowski (497)
Scioto Valley Hot Tubs & Spas (196)
Scosche Industries (400)
SCR Coaches (315)
Second City Systems (193)
Sensor Developments (473)
Serpro (173)
Serrot (252)
Shawmut Design & Construction (219)
Simmons Communications (321)
SIR Group (263)
Skoda, Minotti, Reeves (478)
Skyline Displays (355)
Smart (304)
Smart Data (23)
Softmart (3)
Software Spectrum (15)
Software 2000 (189)
Southern Machine & Tool (487)
Southwest Royalties (358)

Sparta (475)
SpeeDee Oil Change Systems (377)
Statistica (27)
Staubach (224)
Steadi-Systems (162)
Stephen J. Levine & Associates (329)
Sterling Boiler & Mechanical (460)
Sterling Management Systems (45)
Straight Status (417)
Strategic Data Systems (401)
Strategic Management Group (486)
Strategic Radio Research (217)
Stride Rite Booteries (495)
Structural Systems (344)
Sun Financial Group (42)
Sunday River Skiway (163)
Sunglass Distributors (455)
Sunny Waterbeds & Accessories (469)
Sunquest Information Systems (450)
Super 8 Motels (311)
Super Wash (397)
Syme (371)
Symplex Communications (26)
Syscomm International (63)
Systech Computer (237)
Systems Programming (253)
Tab Electric Supply (82)
Team Food Management (350)
Techmatics (216)
Technology Applications (336)
Telco Communications (171)
Teltrend (313)
Temporary Solutions (446)
Temps & Co. (297)
Texel (95)
Therma-Wave (138)
T & M Computer Supply (429)
T/Maker (199)
Today's Temporary (373)
Tops & Trends (405)
Tower Homes (356)
T.P.I. (426)
Transaction Technology (87)
Transamerica Energy Associates (50)
Trinity Computing Systems (184)
TYX (433)
United Agencies (335)
United Medical Supply (91)
United Phone Book Advertisers (14)
Universal Computer (156)
Universal Nutrition (31)
US Auto & Rochester Marine (25)
U-Save Auto Rental of America (169)
UVEST Brokerage Services (465)
Van Horn Designs (412)
Vanderveer Group (212)
Vantage Software (153)
Venture Communication International (44)
Vesoft (424)
Victor Graphics (449)
Viking (352)
Viking Engineering (239)
Villa Enterprises (457)
VIP Personnel (451)
Viromed Laboratories (357)
Virtual Technology (398)
Walker Communications (310)
Walker Richer & Quinn (166)
Washington Consulting Group (316)
Weathashade (408)
Wellex (144)
West Coast Video (4)
White Pine (386)
Whitlatch (69)
William Gallagher Associates (73)
Williams Marketing Services (387)
Windline Amanet (489)
Winter Gardens Salad (416)
Wolfe Lumber (17)
Woodcrest Manufacturing (123)
Woodworkers Supply of New Mexico (266)
WordPerfect (71)
W.T. Quinn (406)
Xyquad (366)
Year One (308)

• • • •

1988

THE 500

#2 ORBITAL SCIENCES CORP.

FAIRFAX, VA.

RHODA BAER

David Thompson

In early 1958, as *Sputnik II* circled the earth, David Thompson watched in wonder, dreaming of the rocket ship *he'd* build one day. Graduating first in his class from both MIT and Cal Tech, Thompson went straight to work at NASA. But the future he imagined—outer-space manufacturing that would take advantage of zero gravity—could not be done with vehicle-launching costs as high as NASA's. Two years at the space agency convinced him that only private industry could do the job.

Soon we'll begin to see if it has. Today, Thompson's company, Orbital Sciences Corp., has parlayed $75 million in private financing into rockets designed to launch military and commercial satellites. The first will debut next year.

	Company (1987 rank) Business description	Sales growth 1983–87 Percent increase	'87 sales ($000)	'83 sales ($000)	Profit range* '87	Profit range* '83	No. of employees '87	No. of employees '83	Date founded
1.	**American Central Gas** Tulsa, OK Gathers, processes, treats, & mkts. natural gas	82,168%	$92,963	$113	D	B	45	1	1983
2.	**Orbital Sciences** Fairfax, VA Mfrs. NASA space launch vehicles	25,297	25,397	100	D	F	44	14	1982
3.	**Softmart** Malvern, PA Sells computer software & peripherals	23,586	25,107	106	D	F	74	6	1982
4.	**West Coast Video** Philadelphia, PA Operates video rental stores	22,663	22,991	101	B	F	141	12	1983
5.	**Government Technology Services** Chantilly, VA Retails microcomputer equipment to govt.	22,536	101,635	449	D	F	300	5	1983
6.	**Jenny Craig Weight Loss Centres** Carlsbad, CA Operates weight-loss centers	21,090	44,922	212	B	F	700	60	1983
7.	**Cabletron Systems** Rochester, NH Mfrs. local area network hardware	20,329	24,923	122	C	E	300	10	1983
8.	**Adept Technology** San Jose, CA Mfrs. industrial robots	17,913	30,622	170	D	F	230	25	1983
9.	**Express Services** Oklahoma City, OK Franchises permanent- & temporary-personnel offices	16,174	49,960	307	E	F	36	6	1983
10.	**Comptronix** Guntersville, AL Mfrs. electronic products	12,974	14,251	109	D	E	300	3	1983
11.	**Group Tech Systems** Miami, FL Mkts. health insurance	12,248	16,300	132	D	F	16	3	1983
12.	**H&M Food Systems** No. Richland Hills, TX Mfrs. meat-based food products	10,553	36,539	343	D	F	107	10	1983
13.	**CEBCOR** Chicago, IL Provides employee leasing svcs.	10,437	15,278	145	D	E	33	2	1983
14.	**United Phone Book Advertisers** (6) Lincoln, NB Publishes telephone directories	9,795	21,076	213	C	E	560	24	1981
15.	**Software Spectrum** Dallas, TX Resells computer software	9,579	29,908	309	D	F	35	2	1983
16.	**Ashford International** Tucker, GA Distr. peripherals & computer products	9,216	9,968	107	E	E	22	2	1983
17.	**Wolfe Lumber** Newport Beach, CA Sells lumber	8,724	17,383	197	D	C	6	2	1983
18.	**Covalent Systems** Fremont, CA Mfrs. automated business mgmt. systs.	8,155	15,519	188	C	F	110	12	1982
19.	**Quad Systems** Horsham, PA Mfrs. products for automated electronics mfr.	7,824	10,222	129	E	F	100	18	1981
20.	**Concept Omega** Somerset, NJ Distr. computer software	7,279	10,257	139	B	F	60	8	1982
21.	**J.P. Rhoades Development** Santa Ana, CA Real-estate development & construction	7,126	33,528	464	C	A	22	18	1982
22.	**Enreco** Amarillo, TX Provides environmental cleanup svcs.	7,114	7,647	106	B	F	28	3	1982
23.	**Smart Data** Morton Grove, IL Distr. computer products	6,931	7,383	105	C	F	17	5	1983
24.	**Datel Systems** San Diego, CA Sells computer hardware & software	6,695	14,610	215	D	D	21	5	1983
25.	**US Auto & Rochester Marine** Rochester, MN Sells automotive & marine products	6,657	10,001	148	C	C	32	2	1983

*A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss

CHARTS TYPESET BY B.P.E. GRAPHICS

#48
RUSSELL CONSTRUCTION CO.
BETTENDORF, IOWA

ANDY GOODWIN

James Russell

Nine percent of this year's INC. 500 companies are in the construction business, and James Russell's is among the smallest, with sales of $5.8 million. But its size belies its scope: unlike the majority of general contractors, Russell Construction is not a regional operation. The Iowa company travels nationally, following a few big clients from state to state to build retail outlets.

"We never pursued this niche," says the 27-year-old founder. "We never even advertised beyond a one-liner in the *Yellow Pages*. We just did one good job, then another, and got repeat business."

With such clients as The Sock Market—mall shops that sell socks—and General Nutrition stores, a good job means keeping to schedule. Price is secondary, and Russell is confident he won't lose a customer to a lower bidder.

He's not so confident, though, about maintaining quality in the face of rapid expansion. "Quality control hasn't kept up with growth," Russell says frankly, "and I've got people in the field with less training than I'd like. But I have no choice."

Company (1987 rank) Business description	Sales growth 1983–87 Percent increase	'87 sales ($000)	'83 sales ($000)	Profit range* '87	'83	No. of employees '87	'83	Date founded
26. **Symplex Communications** Ann Arbor, MI Mfrs. data-communications equipment	6,622%	$8,738	$130	A	F	60	7	1981
27. **Statistica** Columbia, MD Provides professional svcs	6,466	7,288	111	D	F	136	5	1977
28. **Bridges & Co.** Pittsburgh, PA General contractor	6,438	14,514	222	C	D	70	20	1983
29. **Communications International** (46) Norcross, GA Integrates communications systs	6,259	9,094	143	D	F	180	15	1980
30. **Sales Technologies** Atlanta, GA Develops software for sales personnel	5,850	7,556	127	C	F	86	5	1983
31. **Universal Nutrition** Norcross, GA Sells vitamins & health products by mail	5,663	7,262	126	B	F	1	1	1981
32. **Jeta Power Systems** Signal Hill, CA Mfrs. computer power supplies	5,372	5,636	103	D	F	87	13	1982
33. **Michigan Paper** Troy, MI Distr. printing papers	5,238	9,501	178	D	F	5	2	1983
34. **Hall-Kimbrell Environmental Svcs.** Lawrence, KS Provides environmental engineering svcs.	5,216	12,121	228	C	B	290	4	1982
35. **Greenleaf Health Systems** Chattanooga, TN Operates chain of psychiatric hospitals	5,011	21,414	419	D	F	400	5	1980
36. **Bushman Press** Provo, UT Commercial printer	4,983	7,777	153	A	A	90	6	1982
37. **RPR & Associates** Columbia, SC General contractor	4,901	41,856	837	D	F	341	19	1977
38. **Pacifica Services** Pasadena, CA Repairs & overhauls electronic equipment	4,892	19,720	395	D	F	448	7	1979
39. **Aromatique** Heber Springs, AR Mfrs. room fragrances	4,877	6,669	134	A	A	111	15	1983
40. **Chemical & Industrial Engineering** Louisville, KY Provides engineering svcs	4,693	6,806	142	D	F	126	10	1983
41. **Gates Distributing** (7) Richmond, CA Distr. microcomputer products	4,485	49,105	1,071	D	D	108	14	1981
42. **Sun Financial Group** (19) Tampa, FL Sells & leases office equipment & machinery	4,378	16,839	376	C	A	20	2	1981
43. **KTI** (112) Guttenberg, NJ Develops alternative energy sources	4,255	11,932	274	F	F	78	4	1982
44. **Venture Communication International** New York, NY Provides direct-mail advertising svcs.	4,128	5,200	123	B	F	22	4	1983
45. **Sterling Management Systems** Glendale, CA Provides business mgmt. svcs.	4,084	11,463	274	D	D	110	8	1983
46. **Resource Management International** Media, PA Provides asbestos-abatement svcs.	4,073	4,716	113	C	C	60	6	1979
47. **CompuAdd** (3) Austin, TX Retails microcomputers & accessories	4,069	100,275	2,405	D	D	150	10	1982
48. **Russell Construction** Bettendorf, IA General contractor	4,031	5,825	141	D	F	22	2	1983
49. **Energy Services Group International** Williamsburg, VA Provides engineering & technical svcs.	3,938	4,280	106	D	A	60	6	1983
50. **Transamerica Energy Associates** Atlanta, GA Provides technical personnel svcs.	3,884	7,729	194	D	F	150	8	1982
51. **Distribution Plus** (54) Frederick, MD Distr. computer hardware	3,769	30,333	784	F	D	83	11	1978
52. **Construction, Contracting & Mgmt.** Albuquerque, NM Site development & utility construction	3,752	10,245	266	C	F	84	4	1982
53. **Holton Erectors** (91) Wixom, MI Erects metal buildings	3,732	8,008	209	F	F	80	60	1981
54. **Quinn Data Products** Wilmington, DE Distr. & sells computer components	3,717	7,557	198	D	F	15	4	1980
55. **Eastern Marine Construction** (138) Nashua, NH Provides construction svcs.	3,697	3,873	102	B	F	32	18	1981
56. **RJO Enterprises** (24) Lanham, MD Provides systs. engineering svcs	3,691	29,911	789	D	C	482	11	1979
57. **MediQual Systems** Westborough, MA Provides health-care database svcs.	3,611	4,750	128	F	F	80	5	1980
58. **Hudson Valley Tree** Newburgh, NY Mfrs. artificial Christmas trees & wreaths	3,604	16,187	437	B	B	550	350	1982
59. **Hospital Correspondence Copiers** San Jose, CA Provides medical record photocopying svcs.	3,558	8,968	245	B	D	270	8	1982
60. **Future Shape International** (65) Wallingford, CT Mfrs. health & fitness equipment	3,534	12,682	349	C	C	72	5	1982

*A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss

	Company (1987 rank) Business description	Sales growth 1983–87 Percent increase	'87 sales ($000)	'83 sales ($000)	Profit range* '87	'83	No. of employees '87	'83	Date founded
61.	**G.O.D.** (16) Kearny, NJ Provides overnight delivery svcs.	3,528%	$13,824	$381	D	E	278	7	1982
62.	**HealthStaffers** Chicago, IL Provides health-care personnel to hospitals	3,515	4,736	131	D	D	196	5	1977
63.	**Syscomm International** (77) Hauppauge, NY Sells computer hardware & software	3,508	22,079	612	D	D	52	13	1980
64.	**Quadratron Systems** Westlake Village, CA Mfrs. office automation software	3,500	8,783	244	F	F	95	8	1983
65.	**Logistix** (59) Milpitas, CA Mfrs. hardware & software	3,472	35,223	986	D	F	80	40	[illegible]
66.	**1st American Rental Center** Lithonia, GA Rents & sells appliances & home furnishings	3,451	6,001	169	F	F	92	10	1983
67.	**Geoscience Consultants** Albuquerque, NM Provides hazardous waste-mgmt. svcs.	3,449	4,365	123	C	B	35	2	1983
68.	**FG*I** Chapel Hill, NC Provides mkt. & advertising svcs.	3,404	5,361	153	D	C	35	5	1982
69.	**Whitlatch** Twinsburg, OH Builds single-family homes	3,387	9,310	267	D	C	32	2	1982
70.	**Brendamour Warehousing, Moving** Cincinnati, OH Provides warehousing & moving svcs.	3,360	3,564	103	C	C	75	4	1983
71.	**WordPerfect** (26) Orem, UT Designs & mfrs. software	3,347	94,687	2,747	A	D	602	48	1979
72.	**MicroProse Software** Hunt Valley, MD Publishes recreational computer software	3,332	13,213	385	B	A	95	5	1982
73.	**William Gallagher Associates** Boston, MA Insurance broker	3,220	10,092	304	B	F	17	4	1983
74.	**Mobile Technology** Los Angeles, CA Provides mobile medical imaging svcs.	3,099	21,015	657	C	C	136	7	1983
75.	**ProKnit** Scottsdale, AZ Mfrs. fleece & jersey apparel	3,081	10,528	331	D	E	145	6	1985
76.	**Alpha Products** Atlanta, GA Mfrs. plastic products	3,065	3,165	100	C	E	30	3	1982
77.	**Phoenix Marketing Group** Lincoln Park, NJ Provides health-care mkt. svcs.	3,004	3,942	127	A	F	44	5	1983
78.	**Landmark Hotel** Topeka, KS Owns & manages hotels	2,960	74,417	2,432	F	F	1,000	367	1982
79.	**Oscor Medical** Palm Harbor, FL Mfrs. products for microsurgery	2,932	3,153	104	D	F	23	5	1982
80.	**QualPro** Knoxville, TN Provides consulting & training svcs.	2,926	3,147	104	C	F	12	5	1982
81.	**Caber Systems** Miami, FL Retails microcomputers	2,921	23,293	771	D	F	57	3	1982
82.	**Tab Electric Supply** New Bern, NC Distr. electrical equipment & supplies	2,914	7,323	243	C	D	21	6	1983
83.	**Carolina Pottery** Smithfield, NC Retails housewares	2,865	17,996	607	D	C	200	65	1983
84.	**Academic Guidance Services** (113) Marlton, NJ Provides computerized guidance svcs.	2,842	3,266	111	A	A	86	11	1975
85.	**Microsolutions** (39) Dallas, TX Retails microcomputers & software	2,790	10,115	350	E	D	26	2	1982
86.	**Research Analysis & Maintenance** El Paso, TX Provides professional & technical svcs.	2,768	5,909	206	C	B	115	8	1982
87.	**Transaction Technology** Greenville, SC Mfrs. point-of-sale computer systs.	2,731	2,859	101	C	D	41	11	1978
88.	**Babe Winkelman Productions** Brainerd, MN TV & video production	2,690	4,045	145	D	F	26	2	1977
89.	**Pacific Union Dental** Emeryville, CA Provides prepaid dental health insurance	2,683	4,508	162	D	E	10	4	1972
90.	**Mid-Atlantic Medical Svcs.** (148) East Rutherford, NJ Rents specialty medical equipment	2,604	4,948	183	B	C	47	15	1976
91.	**United Medical Supply** Littleton, CO Distr. disposable electrocard. supplies	2,599	3,050	113	D	F	16	8	1982
92.	**Comtrak** Memphis, TN Provides trucking svcs.	2,592	10,688	397	C	B	26	6	1983
93.	**REMA Bakeware** Salina, KS Mfrs. insulated bakeware	2,525	6,773	258	B	C	70	3	1983
94.	**Alpha Computers** Lake Oswego, OR Sells & svcs. microcomputers	2,524	5,090	194	D	D	41	7	1982
95.	**Texel** Fairfax, VA Provides business communications svcs.	2,477	3,608	140	C	D	25	5	1983

*A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss

#78 LANDMARK HOTEL CORP.

TOPEKA, KANS.

BRANDI MILES [illegible]

Gary Keller

Very few of the 1988 INC. 500 companies grew through acquisition—84% made *no* acquisitions in the past five years, and only a handful made more than one or two. The major exception is Landmark Hotel Corp., which made 30 purchases, more than any other INC. 500 company.

Simply put, president Gary Keller has "always wanted to build an empire," and he thinks acquisition is the easiest and cheapest way to do it. His strategy? Buy hotels that in their midsize markets—Peoria, Sioux Falls—are relatively upscale, and renovate them to appeal to the convention trade. All the Landmark properties are franchises, and 22 of the 25 it still owns are Holiday Inns—not surprising, given that 12 top Landmark managers are refugees from Brock Hotel Corp., once one of the country's biggest Holiday Inn franchisees. Keller headed up real-estate financing there, and has used his experience to work with banks, pension funds, and life-insurance companies to buy and renovate Landmark's hotels.

Acquisition *has* had a nasty side effect: red ink, despite gross operating profits of 38%. Keller says he's now "totally focused on consolidation" and confident that this year he'll show positive cash flow.

#108
AMERICAN NURSING RESOURCES INC.
OVERLAND PARK, KANS.

LARRY FLEMING

John and Elizabeth Dayani

Elizabeth Dayani grew up in Brazil, the daughter of missionary parents, and planned to learn nursing and establish a health clinic in the South American jungles. Instead, she ended up a nurse-practitioner in the plains of Kansas. Dayani also wrote a book called *The Nurse Entrepreneur* and with her husband, John, founded one of the country's fastest-growing temporary-help agencies for health-care workers.

The underlying motivation for Dayani's work is a conviction that nurses must take charge of their profession. "It's enormously frustrating to be trained to function at a high level and then have no control over your job," she says.

American Nursing Resources is the Dayanis' attempt to address such frustration. The company's 22 offices, from California to Connecticut, provide supplemental staffing to hospitals and nursing homes and coordinate short-term contracts for private care in homes. The offices are all managed by registered nurses who have profit sharing and stock options. The front-line providers set their own hours and choose their assignments. And they're working under other nurses—the real key, Elizabeth Dayani believes, to empowering the profession. "My dream," she says, "is the day when all hospital nursing services are contracted from nurse-run agencies."

Preferably hers.

	Company (1987 rank) Business description	Sales growth 1983–87 Percent increase	'87 sales ($000)	'83 sales ($000)	Profit range* '87	'83	No. of employees '87	'83	Date founded
96.	**Crux Computer** Canoga Park, CA Provides design svcs. for test equipment	2,442%	$2,542	$100	D	F	10	3	1982
97.	**Persoft** Madison, WI Produces business productivity software	2,399	4,223	169	D	D	58	9	1982
98.	**Great Southeast Construction** Miami, FL General contractor	2,359	3,541	144	B	F	69	11	1983
99.	**Arrowhead Landscaping & Maint.** Scottsdale, AZ Provides landscape & maintenance svcs.	2,341	2,563	105	D	D	120	3	1983
100.	**Ameritel** Neenah, WI Provides telemarketing svcs.	2,333	3,552	146	B	F	100	15	1982
101.	**Office Solutions** Madison, WI Develops office automation software	2,293	4,403	184	D	D	48	5	1983
102.	**Real World Systems** Glen Mills, PA Integrates commercial computer systs.	2,271	2,656	112	D	F	13	1	1983
103.	**Action Systems Technologies** (29) Indianapolis, IN Provides technical svcs.	2,271	3,865	163	F	A	213	5	1980
104.	**Columbus Wood Products** Columbus, OH Distr. interior trim & doors	2,260	5,853	248	C	D	67	7	1983
105.	**Kenfil Distribution** Van Nuys, CA Distr. microcomputer software	2,233	36,465	1,563	D	D	49	33	1983
106.	**Princeton Review** New York, NY Offers preparation for college admission tests	2,228	4,656	200	B	B	28	2	1981
107.	**Optical Disc** Cerritos, CA Mfrs. optical disc recording systs.	2,205	2,950	128	C	F	27	4	1982
108.	**American Nursing Resources** (118) Overland Park, KS Provides home health-care svcs.	2,199	22,714	988	D	D	602	115	1983
109.	**Read** (98) Middleboro, MA Mfrs. gravel-screening equipment	2,197	18,954	825	D	E	153	8	1980
110.	**Purity Sales** Boca Raton, FL Provides grocery wholesaling svcs.	2,154	139,810	6,204	D	D	36	15	1982
111.	**Microserv Technologies** Milford, MA Distr. computers	2,150	8,100	360	D	D	24	4	1982
112.	**Belkin Components** Gardena, CA Mfrs. microcomputer-interface hardware	2,144	3,994	178	C	D	28	4	1983
113.	**Rapco International** Jackson, MO Mfrs. audio products	2,136	7,847	351	C	D	75	6	1982
114.	**Baystar Service** Clearwater, FL Provides telecommunications consulting svcs.	2,124	8,539	384	C	F	166	10	1982
115.	**Dewar Information Systems** Westchester, IL Designs & supports publishing systs.	2,120	8,723	393	D	F	54	4	1975
116.	**East Coast Computer Systems** (68) Red Bank, NJ Distr. computer systs.	2,117	4,789	216	B	B	25	4	1980
117.	**Advance Digital Information** Redmond, WA Mfrs. magnetic cartridge tape systs.	2,109	6,626	300	C	D	34	4	1983
118.	**RJE Communications** Cupertino, CA Sells & leases telecommunications equipment	2,105	9,458	429	D	D	126	10	1983
119.	**Metro Pace Construction** Fairfax, VA General contractor	2,102	8,301	377	D	F	18	2	1981
120.	**FiberCom** Roanoke, VA Develops fiber-optic communications systs.	2,088	13,348	610	F	F	150	10	1982
121.	**Applied Systems** (13) University Park, IL Mfrs. microcomputer software	2,073	13,535	623	D	F	150	7	1980
122.	**Metech** Elverson, PA Mfrs. precious metal electronic materials	2,048	3,050	142	C	F	20	5	1982
123.	**Woodcrest Manufacturing** Peru, IN Mfrs. pinewood furniture	2,041	4,240	198	D	F	71	19	1983
124.	**Corporate Wings** Cleveland, OH Provides aircraft mgmt. & related svcs.	2,040	8,816	412	D	D	65	2	1979
125.	**Automation Atwork** San Jose, CA Designs & sells health-care software	2,040	4,279	200	D	E	46	3	1983
126.	**Group Benefit Services** (22) Lutherville, MD Administers employee benefits plans	2,017	20,557	971	A	C	25	5	1980
127.	**Creative Home Collections** Raymore, MO Mfrs. home decor gifts	2,014	5,052	239	E	D	125	40	1982
128.	**Far West Freight Consultants** Pleasanton, CA Provides trucking & transportation svcs.	1,999	9,300	443	D	C	21	2	1983
129.	**Kenex Systems** Salt Lake City, UT Develops job cost accounting software	1,991	2,467	118	C	F	18	3	1982
130.	**Blackbaud Microsystems** (37) Huntington, NY Supplies turnkey computer systs.	1,968	5,357	259	D	D	55	5	1981

A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss

#136
PETER NORTON COMPUTING INC.
SANTA MONICA, CALIF.

GREG MATSUNAMI

Peter Norton

Computer ate your file? No problem—once upon a time it ate Peter Norton's file, too. Unlike the rest of us, however, Norton did something about it. He quickly recognized that the experience was probably as common as it was frustrating. Maybe even so common and frustrating that lots of people would happily pay money to keep it from happening again.

He was right. The introduction of his Norton Utilities software, which allows users to retrieve deleted files, created a new niche in the PC market: software that exists to make computing easier.

Like many good ideas, Norton's was an eminently copyable one, and products that were touted as cheaper, easier, or broader in scope soon appeared. Still, Norton, who has the distinction of being the first Dewar's Profilee on the INC. 500, has retained his edge. Readers of the trade press consistently vote the updated Norton products their favorites, and the company has diversified into guides and text-editing software for programmers.

	Company (1987 rank) Business description	Sales growth 1983–87 Percent increase	'87 sales ($000)	'83 sales ($000)	Profit range*		No. of employees		Date founded
					'87	'83	'87	'83	
131.	**Border Fuel Supply** Englewood, CO Provides petroleum gathering & transportation svcs	1,958%	$307,210	$14,924	D	E	18	3	1983
132.	**ChemDesign** Fitchburg, MA Mfrs. chemicals	1,953	19,459	948	C	F	140	42	1982
133.	**Paul Sebastian** Ocean, NJ Mfrs. fragrances	1,940	16,685	818	C	D	37	4	1979
134.	**D.D.F. Transportation** (66) Buffalo, NY Provides trucking svcs.	1,940	5,548	272	D	D	46	2	1981
135.	**Public Interest Affiliates** Chicago, IL Syndicates radio, video, & TV programs	1,927	2,331	115	D	B	33	3	1980
136.	**Peter Norton Computing** Santa Monica, CA Mfrs. microcomputer software	1,925	10,996	543	A	A	38	10	1982
137.	**BSE Management** (282) Arcadia, CA Provides environmental & building evaluations	1,923	4,512	223	A	C	60	27	1982
138.	**Therma-Wave** Fremont, CA Mfrs. integrated circuit-control systs.	1,922	6,025	298	C	F	70	10	1982
139.	**Diedre Moire** East Brunswick, NJ Provides mgmt. consltg., & personnel recruiting svcs.	1,910	2,452	122	D	C	38	4	1980
140.	**J.W. Gardner** Charlotte, NC General contractor	1,904	6,233	311	E	E	55	7	1982
141.	**Leather Center** Carrollton, TX Mfrs. leather furniture	1,900	15,363	768	D	D	266	40	1982
142.	**A-M Homes** (69) Santa Barbara, CA Develops property & builds homes	1,900	148,231	7,411	D	F	189	9	1979
143.	**Custom Living Homes & Comm.** (102) Chester, NJ Builds new homes	1,883	102,227	5,155	B	C	185	5	1973
144.	**Wellex** Fremont, CA Mfrs. printed circuit boards	1,877	5,080	257	D	F	168	30	1983
145.	**Neoterik Health Tech.** (268) Woodsboro, MD Mfrs. safety equipment	1,850	4,952	254	D	F	101	4	1981
146.	**National Communications** Miami, FL Provides promotional svcs.	1,844	2,800	144	D	D	17	3	1982
147.	**Produce Plus** Elmhurst, IL Imports & sells produce	1,839	6,633	342	D	F	17	3	1983
148.	**Computer Shopper of Titusville** (134) Titusville, FL Publishes computer publication	1,837	15,222	786	B	C	106	25	1979
149.	**Ortel** Alhambra, CA Mfrs. laser diodes	1,832	6,183	320	D	F	53	10	1980
150.	**DATASEC** Wilton, NH Mfrs. computer products for govt.	1,828	7,307	379	D	B	52	5	1979
151.	**Magna Software** New York, NY Distr. computer software	1,825	3,792	197	A	C	28	2	1976
152.	**Alternate Circuit Technology** Ward Hill, MA Mfrs. printed circuit boards	1,814	10,740	561	B	D	135	15	1982
153.	**Vantage Software** New York, NY Develops custom computer software	1,805	2,876	151	C	F	21	4	1980
154.	**Coddbarrett Associates** Providence, RI Provides computer graphics svcs.	1,805	2,514	132	D	C	18	2	1982
155.	**Chattahoochee Geotech. Consult.** Norcross, GA Provides geotechnical engineering svcs.	1,793	1,969	104	B	B	30	12	1983
156.	**Universal Computer** East Rochester, NY Sells computers	1,790	1,985	105	D	F	11	2	1983
157.	**Micro Specialist** Raleigh, NC Mfrs. & svcs. point-of-sale computer systs.	1,770	2,151	115	D	E	30	1	1982
158.	**Practice Management Systems** Needham, MA Provides svcs. for medical office automation systs.	1,764	4,100	220	D	A	38	3	1983
159.	**Forecast Mortgage** Rancho Cucamonga, CA Develops shopping centers & homes	1,753	63,388	3,421	D	A	55	5	1972
160.	**Osburn Associates** Logan, OH Distr. conduits, fittings, & accessories	1,734	2,770	151	D	B	20	2	1982
161.	**Network Controls International** Charlotte, NC Develops & sells computer software & hardware	1,720	8,956	492	A	D	35	8	1983
162.	**Steadi-Systems** Los Angeles, CA Distr. motion picture production supplies	1,714	1,941	107	C	C	4	1	1983
163.	**Sunday River Skiway** Bethel, ME Operates ski resort	1,705	20,923	1,159	A	D	125	17	1958
164.	**IFS International** Troy, NY Remkts. bank ATM machines	1,693	1,793	100	D	C	20	3	1981
165.	**Hazardous Waste Consultants** Orlando, FL Provides hazardous waste-mgmt. svcs.	1,690	1,933	108	F	F	14	2	1982

A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss

#176
KVH INDUSTRIES INC.
MIDDLETOWN, R.I.

ONNE VANDERWAL

Martin, Robert, and Arent Kits van Heyningen

In 1978, Baron Marcel Bich, chairman of Bic Corp. and owner of the French entry in the America's Cup, wanted an on-board computer to measure his boat's performance. Martin Kits van Heyningen—who worked in the Newport, R.I., shipyards between semesters at Yale—claimed his father, Arent, and brother Robert could build it. Luckily for the sailing-mad Kits van Heyningen family, Martin was right.

In the process of designing the computer they discovered a need for a digital electronic compass, "so it wouldn't be a case of garbage in, garbage out," says Martin. With that need in mind, he wrote a business plan while still an undergraduate, raising about $60,000 to start KVH Industries.

Intent on marketing the digital compasses to the U.S. military as well as to the yachting community, KVH pursued and won enough government research money to develop an unusually large engineering department. With 25 people, compared with 3 or 4 for most businesses its size, the company has been able to maintain an R&D edge over the handful of larger foreign competitors now in the market.

Baron Bich, by the way, lost in the trials. But don't blame KVH. Last year, using a KVH compass, Dennis Conner won.

	Company (1987 rank) Business description	Sales growth 1983–87 Percent increase	'87 sales ($000)	'83 sales ($000)	Profit range* '87	Profit range* '83	No. of employees '87	No. of employees '83	Date founded
166.	**Walker Richer & Quinn** (232) Seattle, WA Mfrs. communication software	1,676%	$8,899	$501	D	E	55	7	1981
167.	**Bertucci's** (265) Woburn, MA Restaurant chain	1,673	6,204	350	C	F	100	5	1981
168.	**Careers USA** Philadelphia, PA Provides permanent- & temporary-help svcs.	1,666	7,717	437	D	C	50	20	1981
169.	**U-Save Auto Rental of America** (81) Hanover, MD Rental car franchisor	1,649	9,113	521	D	D	10	4	1979
170.	**Richard Young Products** (41) Deerfield Beach, FL Distr. computer supplies & accessories	1,638	19,531	1,124	D	D	50	10	1979
171.	**Telco Communications** Pawtucket, RI Produces promotional publications & entertainment	1,637	1,893	109	F	A	17	3	1977
172.	**Oldenburg Group** (110) Milwaukee, WI Diversified manufacturing	1,636	13,313	767	C	C	250	10	1943
173.	**Serpro** St. Louis, MO Provides overnight delivery svcs.	1,632	2,338	135	D	F	21	7	1983
174.	**Prime Technology** Grand Rapids, MI Distr. machine tools	1,628	1,763	102	C	A	19	3	1982
175.	**Auto Trim & Glass** Fort Pierce, FL Sells van accessories & conversion svcs.	1,620	3,680	214	D	C	18	3	1981
176.	**KVH Industries** Middletown, RI Mfrs. navigational instruments	1,614	2,434	142	E	F	74	4	1982
177.	**Quicksilver Express Courier** Minneapolis, MN Provides courier svcs.	1,610	3,796	222	C	E	175	25	1982
178.	**Health Stop Medical Management** Wellesley, MA Manages ambulatory physicians' offices	1,578	25,323	1,509	F	F	750	100	1983
179.	**Clearpoint Research** Hopkinton, MA Mfrs. computer products	1,572	17,785	1,064	D	C	91	7	1982
180.	**Lighthouse Communications Group** Framingham, MA Magazine publishing information svcs.	1,569	2,086	125	D	F	24	4	1983
181.	**Greater Alarm** (230) Huntington Beach, CA Provides electronic security svcs.	1,552	2,081	126	D	F	44	8	1981
182.	**Houston International Teleport** Houston, TX Provides satellite-transmission svcs.	1,544	8,123	494	E	B	57	12	1983
183.	**P.T. True & Associates Development** Dedham, MA Develops real estate	1,532	2,921	179	C	A	3	3	1972
184.	**Trinity Computing Systems** (40) Houston, TX Mfrs. medical software information systs.	1,530	5,999	368	D	F	45	11	1981
185.	**Data Source Media** (250) Lincoln, NB Distr. computer supplies	1,527	2,506	154	C	D	14	3	1973
186.	**Key Resource Group** Williamsville, NY Provides permanent- & temporary-help svcs.	1,510	3,075	191	D	E	13	2	1983
187.	**Puller Mortgage Associates** (264) Indianapolis, IN Mortgage lender	1,503	15,725	981	A	C	112	28	1976
188.	**BTG** (150) Vienna, VA Provides computer systs. engineering svcs.	1,494	20,903	1,311	D	E	185	15	1982
189.	**Software 2000** Hyannis, MA Develops & mkts. business mgmt. software	1,482	5,236	331	A	B	47	12	1981
190.	**Post-Tron Systems** Pawtucket, RI Remkts. retail point-of-sales systs.	1,479	31,026	1,965	D	D	180	15	1982
191.	**Grant Wood Specialists** Nampa, ID Mfrs. oak doors	1,479	2,131	135	F	C	60	3	1976
192.	**Ridge Electric** (190) East Sparta, OH Provides construction svcs.	1,470	2,072	132	E	B	20	9	1980
193.	**Second City Systems** (170) Northbrook, IL Distr. facsimile products	1,456	6,891	443	D	C	82	10	1980
194.	**Electronic Liquid Fillers** LaPorte, IN Mfrs. liquid filling, capping, & labeling equipment	1,436	7,064	460	A	A	53	3	1981
195.	**Exact Solutions** South Brunswick, NJ Resells value-added personal computers	1,434	2,332	152	D	D	9	1	1983
196.	**Scioto Valley Hot Tubs & Spas** Hilliard, OH Retails spas & hot tubs	1,434	2,868	187	D	D	15	4	1982
197.	**Advanced Data Products** Gaithersburg, MD Distr. computer equipment	1,432	13,249	865	D	D	24	6	1983
198.	**Phoenix Textile** St. Louis, MO Distr. institutional textiles	1,425	21,315	1,398	D	F	48	15	1983
199.	**T/Maker** (316) Mountain View, CA Mfrs. microcomputer software	1,415	2,590	171	D	D	10	4	1980
200.	**Comstock Creations** Durango, CO Mfrs. gifts & jewelry	1,405	1,671	111	C	B	22	6	1982

*A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss

	Company (1987 rank) Business description	Sales growth 1983–87 Percent increase	'87 sales ($000)	'83 sales ($000)	Profit range*		No. of employees		Date founded
					'87	'83	'87	'83	
201.	**Facter, Fox & Associates** Los Angeles, CA Provides telemarketing svcs.	1,388%	$3,616	$243	D	F	30	6	1983
202.	**J.R. Abbott Construction** Seattle, WA General contractor	1,381	11,326	765	D	E	65	9	1983
203.	**Quad-S Consultants** (213) Baton Rouge, LA Provides automation consulting svcs.	1,380	2,353	159	D	B	24	2	1981
204.	**Presentables-Cinzia** (288) Sausalito, CA Mfrs. & distr. women's intimate apparel	1,379	5,058	342	C	C	17	6	1980
205.	**R.S. Young Excavating** Flint, MI Provides underground excavating svcs.	1,377	3,027	205	C	F	35	9	1979
206.	**Dash, Straus & Goodhue** (326) Boxborough, MA Laboratory equipment analysis	1,372	2,664	181	C	A	34	8	1980
207.	**Insurance Consulting Assoc.** (225) Petaluma, CA Provides insurance svcs.	1,370	1,837	125	C	F	35	5	1978
208.	**Consolidated Planning** Charlotte, NC Provides financial svcs.	1,369	5,202	354	C	B	100	14	1981
209.	**Hanson Graphic** Milwaukee, WI Provides graphic design svcs.	1,366	1,877	128	A	B	15	4	1980
210.	**C.R. Klewin** Norwich, CT General contractor	1,357	33,770	2,317	D	D	90	25	1982
211.	**Financial Supermarkets** (146) Poughkeepsie, NY Provides financial svcs.	1,352	2,758	190	A	C	18	10	1978
212.	**Vanderveer Group** Fort Washington, PA Provides mkt. consulting & research svcs.	1,347	12,709	878	D	E	120	11	1979
213.	**La Quemazon Wholesale** El Paso, TX Distr. housewares, toys, & novelties	1,342	3,360	233	D	C	12	3	1980
214.	**C-CUBED** (315) Alexandria, VA Provides electronic communications svcs.	1,334	7,642	533	D	F	126	21	1974
215.	**N.H.S.** Soquel, CA Distr. sports equipment	1,332	11,711	918	D	D	33	8	1969
216.	**Techmatics** (155) Arlington, VA Provides engineering svcs.	1,331	6,224	435	C	C	92	10	1982
217.	**Strategic Radio Research** (176) Chicago, IL Provides mkt. research to radio stations	1,325	2,109	148	D	D	20	5	1980
218.	**Crown Products** Addison, IL Mfrs. plastic processing equipment	1,308	10,000	710	E	F	35	8	1983
219.	**Shawmut Design & Construction** (158) Boston, MA General contractor	1,308	7,689	546	D	E	60	12	1980
220.	**Integrated Systems Analysts** (44) Arlington, VA Provides defense systs. engineering svcs.	1,305	36,429	2,593	D	D	485	60	1980
221.	**All Gulf Contractors** Mobile, AL Provides asbestos-abatement svcs.	1,302	4,289	306	C	B	34	11	1980
222.	**American Cimflex** (5) Pittsburgh, PA Mfrs. software-intensive products	1,298	35,449	2,535	D	F	295	65	1982
223.	**Benshaw** Glenshaw, PA Mfrs. industrial motor controls	1,297	2,933	210	C	F	37	6	1983
224.	**Staubach** (420) Dallas, TX Sells real estate	1,296	14,643	1,049	D	F	160	27	1977
225.	**Ginger Group** Jenkintown, PA Produces fruit juices & drinks	1,295	4,240	304	D	E	10	1	1980
226.	**Control Systems** (111) St. Paul, MN Mfrs. computer components	1,293	13,578	975	C	A	96	8	1976
227.	**Hard Engineering** (302) Huntsville, AL Mfrs. communications test equipment	1,291	1,948	140	C	E	17	3	1981
228.	**Park Cardiographics** Taunton, MA Provides diagnostic medical svcs.	1,270	13,052	953	A	A	85	21	1981
229.	**FLS Services** (195) Dallas, TX Provides insurance for financial institutions	1,260	1,578	116	A	A	35	12	1979
230.	**Ad Dimensions Products** Carol Stream, IL Mfrs. paper pads & specialty papers	1,255	4,146	306	C	D	72	7	1983
231.	**Popcorn Palace & Candy Emporium** Irvine, CA Retails gourmet popcorn & candy	1,248	2,655	197	D	D	16	3	1982
232.	**Logicraft** (261) Nashua, NH Mfrs. networking computer products	1,248	5,444	404	C	F	37	5	1975
233.	**Health Care Associates** Avon, CT Operates nursing homes	1,246	39,009	2,898	C	B	1,500	110	1976
234.	**Professional Business Schools** (416) St. Louis, MO Operates private vocational schools	1,240	3,538	264	D	E	190	15	1977
235.	**Early & Associates** Harrisonburg, VA General contractor	1,235	1,642	123	D	C	16	10	1982

*A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss

#213
LA QUEMAZON WHOLESALE
EL PASO, TEX.

MUEBLES-ELECTRONKA
COMPR
APART

JACK DYKINGA

Jose Javier Calderon, far left

When Jose Javier Calderon and his family first began selling closeout merchandise from El Paso stores at local flea markets, almost all the business came from Mexicans crossing the border. Today, La Quemazon Wholesale still sells mostly to Mexicans, but the company does more of the crossing itself.

"Half our business is wholesale export to small Mexican customers, with many of their orders in the $300 to $1,000 range," says Calderon, a first-generation American whose parents are Mexican. "Our biggest competitors are Koreans, who don't know our people or our language."

The company's three retail shops' clientele also continues to be predominantly Mexican. Carrying briefcases full of cash, they cross the river and travel the one U.S. block to buy housewares and action toys at the El Paso store.

"Operating a border business is completely different from other businesses in the United States," says Calderon. He has to think biculturally—"when we buy china, for instance, we have to get light, elegant colors for Americans, and bright colors with big patterns for Mexicans"—and 90% of his customers speak only Spanish.

#256
LIBERTYVILLE LINCOLN/MERCURY
LIBERTYVILLE, ILL.

ANDY GOODWIN

Julius Marks

People who live in Libertyville, Ill., call it a sleepy little town, a quiet suburb of Chicago. But there's nothing sleepy about Libertyville Lincoln/Mercury, a dealership that last year sent 12,220 cars off into the sunset and grew an astonishing $100 million, to $212 million in revenues.

Budget Rent-A-Car had a lot to do with it. Company president Julius Marks is a former Budget franchisee who convinced the corporation to buy Lincolns and Mercurys from him; in 1987 Marks went from being a regional supplier to Budget's sole national source for its corporate-owned locations. The account exploded by some 5,000 cars to make up 83% of Libertyville's sales.

Still, moving five new cars a day in retail is in itself no mean feat, especially considering there are two dozen other L/M dealers in the area. Leasing has been the key: retail sales have jumped 33% since Libertyville started the program last year. "Leasing makes luxury affordable," says Marks. "Ford encourages it because people switch leased cars sooner than they buy new ones; the merchandise turns over faster. And for us, it means more customers."

	Company (1987 rank) Business description	Sales growth 1983–87 Percent increase	'87 sales ($000)	'83 sales ($000)	Profit range* '87	Profit range* '83	No. of employees '87	No. of employees '83	Date founded
236.	**After the Stork** (119) Albuquerque, NM Retails children's clothing by mail	1,235%	$5,006	$375	B	A	50	3	1980
237.	**Systech Computer** (23) San Diego, CA Mfrs. communications interfaces	1,232	15,708	1,179	C	C	141	19	1981
238.	**Pennsylvania Computer** West Chester, PA Sells computers	1,223	6,945	525	C	E	35	3	1982
239.	**Viking Engineering** Tarpon Springs, FL Mfrs. pressure washers for painting contractors	1,222	2,155	163	D	D	17	2	1981
240.	**Parkman** Taunton, MA Develops & manages real estate	1,220	14,775	1,119	D	D	101	30	1982
241.	**Roddy Temporary Svcs.** (227) Ann Arbor, MI Provides temporary-help svcs.	1,212	2,466	188	C	B	390	54	1978
242.	**Reflections Jewelers** Des Plaines, IL Retails jewelry	1,199	1,559	120	A	B	8	4	1983
243.	**Mona, Meyer & McGrath** (470) Bloomington, MN Provides PR svcs.	1,193	4,798	371	C	C	75	19	1981
244.	**IMRS** (172) Stamford, CT Develops financial data-mgmt. software	1,191	3,434	266	D	C	30	6	1981
245.	**O/E Automation** (94) Troy, MI Sells & leases office automation equipment	1,191	70,014	5,424	D	C	570	18	1979
246.	**Numismatic Invest. of New England** Salem, NH Sells U.S. rare coins	1,181	4,406	344	D	C	8	3	1982
247.	**Reider Racing Enterprises** Wyandotte, MI Distr. & resells auto gear sets	1,163	2,248	178	B	D	4	2	1980
248.	**Data Share** Wichita, KS Mfrs. computer cables & accessories	1,160	2,054	163	D	D	20	4	1982
249.	**Betras Plastics** Spartanburg, SC Mfrs. imprinted plastic drinkware	1,155	11,334	903	D	D	180	25	1983
250.	**Emmis Broadcasting** (38) Indianapolis, IN Radio broadcasting	1,154	33,646	2,683	F	F	270	65	1979
251.	**American Appliance Outlets** San Antonio, TX Retails appliances & electronics	1,153	12,443	993	D	D	31	5	1983
252.	**Serrot** (338) Huntington Beach, CA Fabricates & installs plastic linings	1,151	13,558	1,084	D	D	95	25	1978
253.	**Systems Programming** San Francisco, CA Designs custom software	1,149	2,011	161	A	F	20	3	1981
254.	**MIDA Dental Plans** Southfield, MI Administers dental programs	1,147	12,095	970	D	F	59	2	1980
255.	**North American Roofing** (178) Carmel, IN Provides roofing svcs.	1,145	14,320	1,150	B	D	150	63	1980
256.	**Libertyville Lincoln/Mercury** Libertyville, IL Sells automobiles	1,143	211,692	17,026	D	D	85	34	1981
257.	**Rue de France** Newport, RI Mfrs. & retails lace curtains	1,143	2,063	166	D	A	35	2	1982
258.	**Interactive Business Systems** (43) Oak Brook, IL Provides data-processing svcs.	1,142	9,167	738	D	F	135	21	1981
259.	**First Manhattan Consulting Group** New York, NY Provides mgmt. consulting svcs.	1,141	14,652	1,181	A	A	50	30	1980
260.	**Microdynamics** Dallas, TX Provides CAD/CAM systs.	1,139	18,026	1,455	C	F	162	30	1979
261.	**Morris & Raper Realtors** (20) Atlanta, GA Sells new homes	1,137	40,367	3,263	A	B	42	6	1979
262.	**Rossin, Greenberg, Seronick & Hill** Boston, MA Full-service advertising agency	1,135	3,039	246	B	A	38	6	1983
263.	**SIR Group** Dallas, TX Provides insurance svcs.	1,135	3,742	303	E	D	20	3	1983
264.	**Original Copy Centers** (199) Cleveland, OH Owns & operates copy center	1,130	3,321	270	D	A	72	5	1975
265.	**Micrografx** Richardson, TX Develops & mkts. graphics software	1,127	5,203	424	A	E	20	3	1982
266.	**Woodworkers Supply of NM** (286) Albuquerque, NM Retails woodworking supplies & tools	1,122	22,898	1,874	D	D	65	25	1972
267.	**Bramarq Construction** Fallsington, PA General contractor	1,121	7,339	601	C	D	30	9	1972
268.	**Eye Spy Photo** Mableton, GA Retails novelty photos	1,117	2,167	178	E	A	16	5	1983
269.	**Gary A. Taylor Construction** (120) Jackson, TN General contractor	1,114	4,747	391	D	C	30	9	1980
270.	**Ghafari Associates** (34) Livonia, MI Provides architectural & engineering svcs.	1,103	8,671	721	D	D	158	23	1982

A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss

#300
PRESTAGE FARMS
CLINTON, N.C.

HENDERSON, MUIR PHOTOGRAPHY

Bill Prestage

It's an old adage, confides Bill Prestage, that the only thing dumber than turkeys is the guy who works with them. But turkeys aren't that dumb (contrary to popular belief, they will not look up at the sky during a rain shower and drown), and neither are the people at Prestage Farms, a poultry- and pig-production company that this year will sell 6 million turkeys and 190,000 hogs.

The company contracts with farmers in North Carolina, giving them piglets and poults—along with feed, veterinary services, and technical advice—to raise in their own facilities. Such an arrangement has become common in the turkey business over the past 10 years but is a relatively recent development for swine, though Prestage thinks that will change. "This is a commodity business. When we buy vitamins to make our feed, for instance, we're buying in bulk. We'll save half a cent here, half there, and it adds up."

Prestage's timing couldn't have been better. Many of his contract farmers originally grew corn, soybeans, and tobacco, and have been anxious to diversify production. Per capita consumption of turkey meat, meanwhile, has increased from 11 pounds per year to 17 since 1983.

	Company (1987 rank) Business description	Sales growth 1983–87 Percent increase	'87 sales ($000)	'83 sales ($000)	Profit range* '87	'83	No. of employees '87	'83	Date founded
271.	**Advertising Consultants** (182) Tulsa, OK Provides specialty advertising svcs.	1,100%	$3,817	$318	D	D	12	3	1981
272.	**P.J. Marketing Services** South Bend, IN Sells promotional products	1,100	2,388	199	D	C	7	1	1975
273.	**Molly Maid** (298) Ann Arbor, MI Provides residential cleaning svcs.	1,097	2,538	212	F	F	1,685	287	1979
274.	**Prima Die Casting** (381) Clearwater, FL Mfrs. die cast & trim die molds	1,095	6,381	534	D	F	120	25	1965
275.	**Plow & Hearth** (202) Madison, VA Sells country-living products by mail	1,083	5,215	441	D	F	26	6	1980
276.	**Communications Design** Stamford, CT Provides telecommunications-mgmt. software	1,079	4,278	363	A	D	26	5	1978
277.	**Kultur Video** West Long Branch, NJ Distr. performing arts videocassettes	1,078	1,496	127	A	A	8	2	1980
278.	**Hill International** Willingboro, NJ Provides engineering & project-mgmt. svcs.	1,076	185,850	15,808	D	C	480	285	1976
279.	**Business Information Tech.** (33) Wilmington, DE Provides software systs. consulting svcs.	1,075	5,732	488	D	C	63	18	1981
280.	**BCP Technical Services** (71) New Orleans, LA Provides engineering consulting svcs.	1,068	9,673	828	D	C	68	12	1981
281.	**Flagstaff Engineering** Flagstaff, AZ Mfrs. & sells computer peripherals	1,066	6,217	533	B	B	41	5	1982
282.	**Applied Energy Services** (70) Arlington, VA Operates independent power-production facilities	1,064	37,753	3,244	D	A	200	20	1981
283.	**Richardson Turner Construction** Knoxville, TN General contractor	1,052	5,494	477	D	D	18	3	1981
284.	**CareerTrack** (10) Boulder, CO Provides professional dvlpmt. training	1,050	38,005	3,306	B	F	188	27	1982
285.	**Core International** Boca Raton, FL Mfrs. & sells hard disk drives	1,044	15,931	1,393	C	B	65	5	1981
286.	**Broughton Systems** Richmond, VA Develops computer systs.	1,041	1,255	110	C	F	20	4	1981
287.	**National Systems & Research** (300) Col. Sprgs., CO Provides systs. engineering svcs.	1,038	13,871	1,219	D	C	200	40	1980
288.	**Bacova Guild** (374) Bacova, VA Mfrs. hardware & home furnishings	1,036	19,090	1,681	C	C	192	37	1965
289.	**MCF Machine** Canton, OH Mfrs. hydraulic components	1,017	1,619	145	D	B	18	4	1981
290.	**Advanced Practice Management** (92) Clearwater, FL Provides mgmt. & mkt. consulting svcs.	1,011	4,756	428	D	D	75	14	1981
291.	**Corporate Merchandise** (360) Santa Ana, CA Retails mail-order products	1,011	1,722	155	A	E	7	2	1981
292.	**Computerware** (108) Bristol, PA Retails microcomputers	1,011	16,296	1,467	D	D	55	8	1982
293.	**National Independent Business** Wayne, PA Provides benefit svcs. to small businesses	1,011	11,673	1,051	A	A	22	2	1983
294.	**Mayfair Computers** Wauwatosa, WI Sells computers	1,010	3,429	309	C	E	20	3	1983
295.	**Frontier Engineering** Stillwater, OK Mfrs. electronic instrumentation	1,008	14,858	1,341	D	D	302	39	1973
296.	**Aquidneck Mgmt. Assoc.** (95) Middletown, RI Provides systs.-mgmt. & security svcs.	1,008	8,751	790	F	C	204	5	1981
297.	**Temps & Co.** (122) Washington, DC Provides temporary-help svcs.	1,006	21,864	1,977	D	D	86	8	1981
298.	**Herring-Newman Direct Resp. Advert.**, Seattle, WA Advertising agency	999	5,395	491	C	B	35	5	1983
299.	**Carlstedt Construction** Indianapolis, IN General contractor	996	11,566	1,055	D	D	40	10	1982
300.	**Prestage Farms** Clinton, NC Produces pork & poultry products	996	51,553	4,705	B	F	145	28	1983
301.	**Manitowoc Custom Molding** Manitowoc, WI Mfrs. thermosetting plastic parts	995	3,373	308	C	F	51	16	1983
302.	**Physician Sales & Service** Jacksonville, FL Distr. medical supplies to physicians	990	20,083	1,843	D	D	147	15	1983
303.	**Montalbano Builders** Westmont, IL Designs & produces semicustom luxury homes	989	19,098	1,753	A	D	34	8	1975
304.	**Smart** (443) Torrance, CA Provides hospital svcs.	986	14,509	1,336	D	D	740	480	1976
305.	**BioGenex Laboratories** San Ramon, CA Mfrs. immunological products	986	1,162	107	A	F	35	6	1981

A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss

#324

ONEIDA ASBESTOS REMOVAL INC.

MARCY, N.Y.

BOB MAHONEY

Frank DuRoss

The year was 1981, and it seemed Johns-Manville Corp. was being sued by everyone who'd ever handled its asbestos. Frank DuRoss had a profitable janitorial-services business in upstate New York, and read an article about schools being ordered to remove the stuff. "A guy at the EPA was saying there weren't enough people to do it," remembers DuRoss, "and I figured we could." Within six months DuRoss and his brother James had started a new company specifically for asbestos abatement, and contracts from school districts began pouring in.

Today, work from schools and military facilities accounts for just half of Oneida's business, the rest coming from corporations and mortgage lenders requiring a building's clean bill of health. Disposal of the removed material has become a major problem: three years ago Oneida paid $2 per bag and used municipal dumps and landfills; now, it must pay up to $9 per bag to private haulers. Still, the company's net margins topped 16% last year.

	Company (1987 rank) Business description	Sales growth 1983–87 Percent increase	'87 sales ($000)	'83 sales ($000)	Profit range* '87	Profit range* '83	No. of employees '87	No. of employees '83	Date founded
306.	**Burdco Environmental** Traverse City, MI Provides asbestos-abatement svcs.	978%	$6,704	$622	C	D	100	15	1976
307.	**Archery Center International** Monroe, MI Distr. archery equipment	971	2,141	200	D	F	15	1	1980
308.	**Year One** Tucker, GA Distr. antique auto parts	969	3,634	340	D	E	17	5	1980
309.	**Buckingham Computer Services** Midland, MI Provides computer svcs.	968	1,549	145	D	B	26	3	1982
310.	**Walker Communications** Scottsdale, AZ Provides advertising & PR svcs.	968	1,431	134	D	E	7	2	1982
311.	**Super 8 Motels** (73) Aberdeen, SD Franchises economy motels	968	77,328	7,242	D	D	241	78	1973
312.	**Advanced Systems Development** (45) Arlington, VA Provides computer consulting svcs.	962	6,034	568	D	C	102	16	1979
313.	**Teltrend** (93) St. Charles, IL Mfrs. telecommunications equipment	958	40,112	3,791	B	C	345	108	1979
314.	**Pretty Punch Shoppettes** Sanford, FL Mfrs. craft supplies	958	3,332	315	C	C	65	4	1981
315.	**SCR Coaches** Fargo, ND Provides tow, travel, & bus svcs.	956	2,175	206	C	F	15	1	1983
316.	**Washington Consulting Group** Washington, DC Provides technical consulting svcs.	955	16,449	1,559	D	D	150	30	1979
317.	**Dura Temp** Holland, OH Mfrs. non-asbestos materials for glass industry	953	2,137	203	A	F	4	5	1983
318.	**Quick-Flight Stair** Atlanta, GA Mfrs. prefab wooden staircases	952	3,754	357	C	D	42	7	1983
319.	**Helicomb International** Tulsa, OK Mfrs. composite panels for aerospace industry	950	4,306	410	D	E	80	28	1981
320.	**Georgia Mountain Water** Marietta, GA Sells bottled water & rents coolers	947	1,099	105	D	F	20	5	1981
321.	**Simmons Communications** Stamford, CT Operates cable TV systs.	946	31,403	3,003	F	F	270	58	1982
322.	**Great Midwestern Ice Cream** Fairfield, IA Mfrs. ice cream	945	2,549	244	F	F	35	3	1979
323.	**Kaminari** Brea, CA Distr. auto aerodynamic components	944	1,472	141	A	A	16	8	1980
324.	**Oneida Asbestos Removal** (278) Marcy, NY Provides asbestos-abatement svcs.	944	10,164	974	A	D	100	40	1981
325.	**Innovative Computer Products** Indianapolis, IN Mkts. communications hardware & software	943	5,968	572	D	D	23	7	1983
326.	**GAR-P Industries** Medley, FL Mfrs. truck bodies	942	1,438	138	B	B	18	4	1976
327.	**ABS** (106) Wichita, KS Produces direct mailings	938	5,440	524	D	C	220	34	1979
328.	**McCaren Designs** (406) St. Paul, MN Provides interior plantscaping	937	1,556	150	D	F	26	5	1977
329.	**Stephen J. Levine & Assoc.** (181) Santa Fe Sprgs., CA Distr. restaurant equipment	937	5,993	578	D	C	29	6	1980
330.	**ACCEL Courier Systems** Waldwick, NJ Provides delivery svcs.	936	1,668	161	D	D	43	10	1981
331.	**Design East Interiors** Concord, NH Commercial & model home merchandiser	936	1,295	125	B	D	12	5	1982
332.	**Kaselaan & D'Angelo Assoc.** Haddon Heights, NJ Provides environmental consulting svcs.	933	9,382	908	B	A	153	10	1980
333.	**Ovation Marketing** La Crosse, WI Advertising agency	933	1,869	181	D	D	52	6	1978
334.	**Santa Cruz Operation** (228) Santa Cruz, CA Develops & mkts. multiuser software	931	27,743	2,690	D	C	421	50	1979
335.	**United Agencies** (197) Cape Canaveral, FL Sells life insurance	926	7,984	778	C	D	1,508	903	1980
336.	**Technology Applications** Alexandria, VA Provides professional and technical svcs.	925	52,121	5,087	D	D	835	116	1977
337.	**Consumer Health** Newport Beach, CA Operates prepaid dental health-care plan	924	15,016	1,467	D	D	217	12	1979
338.	**Cinecom Entertainment Group** New York, NY Distr. motion pictures	922	13,164	1,288	E	F	35	7	1982
339.	**Little & Co.** (147) Salt Lake City, UT Provides mortgage field svcs.	921	4,776	468	C	A	60	12	1979
340.	**RPM Rent-A-Car System** Inglewood, CA Provides auto & truck rental svcs.	920	4,262	418	C	C	46	4	1982

*A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss

1988 INC. 500

#374
BARTER EXCHANGE INC.
AUSTIN, TEX.

ED SIAMAN

Matthew O'Hayer

We're always flattered when people tell us INC. has affected how they do business. But Matthew O'Hayer has taken it a step further. He says he'd never even *heard* of the bartering industry until he read about it here. He was so intrigued that he started Barter Exchange Inc., which joins the INC. 500 in its first year of eligibility.

BEI coordinates the trading of goods and services for 4,000 companies nationally; a restaurant, for example, might serve BEI members and get paid in trade dollars, which it then uses to get menus printed or buy media time. "Bartering is just another marketing tool," says O'Hayer, who makes the bulk of his money from a 10% charge (in Uncle Sam's dollars) on transactions.

BEI, by the way, is one its own biggest customers. BEI uses trade dollars (paid monthly by members) for Peat Marwick Main & Co. accounting, as well as for its computers, cellular phones, fax machines, printing, most of its advertising, and even part of its payroll. "We've got three employees about to get married," says O'Hayer, "and they're using trade dollars to pay for bridal dresses, tux rentals, receptions, and photographers."

	Company (1987 rank) Business description	Sales growth 1983–87 Percent increase	'87 sales ($000)	'83 sales ($000)	Profit range* '87	Profit range* '83	No. of employees '87	No. of employees '83	Date founded
341.	**Oil Express** Kirkland, WA Provides auto oil change svcs.	915%	$1,746	$172	[illegible]	C	35	6	1983
342.	**BMC Software** (371) Sugar Land, TX Develops & mkts. software	911	28,043	2,775	A	C	173	27	1980
343.	**R.B. Associates** Columbia, MD Operates weight-loss center	908	1,895	188	A	F	11	8	1983
344.	**Structural Systems** Gaithersburg, MD Distr. building components	907	13,945	1,385	D	B	55	10	1968
345.	**Intelligent Controls** Novi, MI Provides svcs. & products to auto industry	906	2,576	256	C	F	45	10	1982
346.	**Braaten Oil** Janesville, WI Mkts. petroleum	904	10,350	1,031	C	B	8	3	1976
347.	**Advanced Systems Concepts** Schaumburg, IL Develops & mkts. software	898	1,218	122	E	A	6	2	1982
348.	**Continuous Forms & Checks** Peachtree City, GA Mfrs. continuous business forms	898	7,936	795	C	D	123	21	1982
349.	**International Galleries** Lincoln, NB Provides direct-mkt. svcs.	893	5,153	519	C	F	63	6	1973
350.	**Team Food Management** Michigan City, IN Operates pizza franchise	893	10,273	1,035	D	D	153	17	1982
351.	**Protel** Lakeland, Fl Mfrs. coin telephone retrofit kits	891	2,646	267	C	A	36	5	1983
352.	**Viking** Wayne, PA Constructs & renovates ice arenas	888	1,779	180	D	D	2	1	1977
353.	**ERM Group** (426) Exton, PA Provides environmental engineering svcs.	887	66,850	6,775	C	D	339	91	1977
354.	**Cyberchron** Cold Spring, NY Mfrs. & distr. military computer & electronic systs.	884	39,147	3,978	E	D	20	10	1974
355.	**Skyline Displays** (293) Burnsville, MN Mfrs. portable displays & graphics	883	13,272	1,350	C	D	62	20	1980
356.	**Tower Homes** Middleburg, PA Mfrs. mobile homes	881	10,459	1,066	D	F	109	103	1983
357.	**Viromed Laboratories** Minnetonka, MN Mfrs. tissue culture products	880	2,274	232	C	D	23	7	1982
358.	**Southwest Royalties** Midland, TX Produces oil & gas	880	1,852	189	A	A	10	3	1983
359.	**Coiltron** Tigard, OR Mfrs. power supplies, transformers, & coils	876	1,708	175	D	F	45	4	1982
360.	**Encore Marketing International** Lanham, MD Provides travel svcs.	876	50,032	5,127	C	D	213	34	1978
361.	**Comlinear** (220) Fort Collins, CO Mfrs. signal processing components	873	8,165	839	B	F	103	12	1980
362.	**Cencom Cable Associates** Chesterfield, MO Operates cable TV syst.	871	9,508	979	F	F	350	40	1982
363.	**CDC Financial** (212) Farmington, CT Provides mortgage & equity financing	871	6,252	644	B	A	21	5	1981
364.	**Head West** Compton, CA Mfrs. mirrors & screen printing	868	5,946	614	D	D	88	19	1977
365.	**Millrock** Sanford, ME Mfrs. custom store interiors	868	3,06	317	D	B	50	2	1981
366.	**Xyquad** St. Louis, MO Provides computer consulting svcs.	865	4,624	479	D	B	43	3	1979
367.	**Ruby Restaurant Group** Costa Mesa, CA Operates 1940s-diner theme restaurants	865	5,906	612	D	B	350	30	1982
368.	**Network Rental** (263) Atlanta, GA Rent-to-own household appliances	862	15,929	1,655	F	B	202	90	1981
369.	**Schiffer Mason Contractors** Holt, MI Mason contractors	861	10,325	1,074	D	D	159	27	1973
370.	**Advanced Sciences** Albuquerque, NM Provides environmental engineering svcs.	855	9,380	982	D	F	100	50	1977
371.	**Syme** (389) Chagrin Falls, OH Mfrs. metal containers for hazardous-waste disposal	855	9,453	990	C	E	75	2	1976
372.	**Marathon Printing** Philadelphia, PA Provides offset printing svcs.	851	1,008	106	C	C	21	5	1981
373.	**Today's Temporary** (74) Dallas, TX Provides temporary-help svcs.	850	21,289	2,242	D	D	52	15	1982
374.	**Barter Exchange** Austin, TX Provides barter svcs.	848	2,123	224	D	D	25	5	1983
375.	**Human Resources** (249) Stamford, CT Provides permanent- & temporary-help svcs.	846	2,894	306	E	D	25	5	1979

* [illegible] B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss

	Company (1987 rank) Business description	Sales growth 1983–87 Percent increase	'87 sales ($000)	'83 sales ($000)	Profit range* '87	Profit range* '83	No. of employees '87	No. of employees '83	Date founded
376.	**Glen Ivy Financial Group** (410) Corona, CA Develops real-estate & time-share resorts	838%	$44,061	$4,699	C	C	500	110	1975
377.	**SpeeDee Oil Change Systems** Metairie, LA Provides oil change & tune-up svcs	834	1,364	146	A	F	74	9	1980
378.	**J.T. Schrimsher Construction** Huntsville, AL General contractor	833	32,649	3,500	D	D	190	60	1946
379.	**ParaData Comp. Net.** (235) Farmington Hills, MI Distr. computer hardware & software	831	10,810	1,161	D	D	70	30	1979
380.	**Intergroup of Arizona** (57) Tucson, AZ Provides health-maintenance svcs.	827	65,532	7,068	D	D	105	16	1981
381.	**FLC Instruments** Aurora, IL Mfrs. instrument control systs.	826	2,658	287	D	E	25	3	1980
382.	**Planning Analysis** Arlington, VA Provides information technology svcs.	826	2,241	242	D	D	30	4	1981
383.	**COSMOS** (317) Washington, DC Provides technical assistance & consulting svcs.	824	2,422	262	C	D	35	5	1980
384.	**KarmaK Sftwr. & Cmptr. Svcs.** (163) Carlinville, IL Provides software dvlpmt. svcs.	323	2,484	269	F	F	25	8	1981
385.	**Prestige Products** Los Angeles, CA Distr. auto accessories	818	20,841	2,270	D	D	100	12	1979
386.	**White Pine** (139) Middleton, WI Retails silk clothing by mail	815	7,021	767	B	D	9	4	1981
387.	**Williams Marketing Services** Grand Rapids, MI Provides mkt. consulting svcs	813	2,100	230	A	F	17	4	1978
388.	**Physician's Weight Loss Centers** (184) Akron, OH Franchises weight-loss centers	812	26,581	2,915	A	A	45	22	1979
389.	**NCO Financial Systems** Blue Bell, PA Provides financial svcs.	808	935	103	C	D	20	3	1926
390.	**Currier Construction** (290) Auburn, NY General contracting & mgmt.	807	3,438	379	D	F	12	10	1976
391.	**O'Ryan Industries** Vancouver, WA Mfrs. fiber-optic & laser lighting	806	2,391	264	D	F	21	6	1982
392.	**Just Fish** Winslow, WA Produces & sells seafood products	804	2,575	285	D	E	5	1	1982
393.	**Corporate Visions** Washington, DC Provides graphics & design svcs.	803	1,733	192	F	D	24	2	1983
394.	**Lely Development** Naples, FL Develops land	795	16,583	1,852	C	F	18	23	1965
395.	**Good News Travels** (385) Easley, SC Provides group tours	794	1,278	143	F	F	7	3	1981
396.	**Francioli Richartz Weiman & Fliss** Parsippany, NJ Provides advertising & PR svcs.	794	4,200	470	B	C	7	5	1980
397.	**Super Wash** Morrison, IL Runs coin-operated car wash facilities	793	8,501	952	C	C	19	3	1981
398.	**Virtual Technology** Rochester Hills, MI Distr. computer equipment	793	9,276	1,039	C	C	30	3	1983
399.	**Landair Transport** (136) Greeneville, TN Provides transportation svcs.	791	19,362	2,173	D	B	418	57	1981
400.	**Scosche Industries** (269) Moorpark, CA Mfrs. auto accessories & publications	787	2,608	294	D	F	33	6	1980
401.	**Strategic Data Systems** (27) Sheboygan, WI Develops application software	785	5,777	653	C	F	75	25	1981
402.	**HUB City Kansas City Terminals** Overland Park, KS Provides rail & highway shipment svcs.	783	14,660	1,661	D	E	14	4	1983
403.	**Henley International** Sugar Land, TX Mfrs. & distr. medical equipment	781	6,750	766	D	F	75	7	1976
404.	**Krieger** Travelers Rest, SC Provides textile dyeing & embroidery finishing svcs.	781	17,622	2,000	C	E	270	15	1983
405.	**Tops & Trends** Kernersville, NC Installs auto accessories	778	922	105	D	F	10	2	1982
406.	**W.T. Quinn** (128) Somerset, NJ Publishes advertising catalogs	777	4,981	568	D	D	35	1	1982
407.	**CIMLINC** Elk Grove Village, IL Develops & mkts. software	776	34,487	3,937	D	F	244	96	1981
408.	**Weathashade** Apopka, FL Mfrs. plastic lawn & garden products	773	7,131	817	D	F	71	18	1981
409.	**Accutest Laboratories** (304) Dayton, NJ Environmental & medical testing lab	772	2,973	341	D	E	48	20	1956
410.	**DMI Products** Fort Worth, TX Mfrs. residential lighting products	771	1,821	209	D	D	6	2	1981

*A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss

#392
JUST FISH INC.
WINSLOW, WASH.

RICH FRISHMAN

Julie Just

When Julie Just was hired to do sales for a fish-trading start-up, she had no idea that the president would grow disillusioned within the month. Or that he'd quit, and sell his 80% share and liability for the debt to her for $400. Or that she'd operate the company out of her house for the next two years, eventually hire a couple of other people, and end up marrying the other investor in the business. But life, as they say, is what happens when you're making other plans.

Says Just, whose previous jobs have included waiting tables, picking apples, and helping to run a salmon farm: "I always figured my lot in life was to be a bookkeeper. In essence, that's what I do now, but on a broader scale."

She arranges for fishermen to ship salmon directly from Alaska to her wholesale customers in the States and abroad; sometimes she traipses down to the Puget Sound docks herself to pick out, unload, ice up, and truck off the best fresh-caught fish.

Her finest compliment? She sent a Japanese client, known for his particularly high standards, a sample of the fish that was filling his 15,000-pound order. "He told me later that he didn't even look at it. He said, 'I didn't have to—I know I can count on you.' That's a sign that we're doing something right."

1988 INC. 500

#439 and #76 BULLDOG MOVERS INC./ ALPHA PRODUCTS INC.

ATLANTA, GA

BULLDOG
MOVERS

ANN STATES

Richard Williams and Jim Scott

It's impressive enough to make the INC. 500 with one company before your 28th birthday. But evidently that wasn't enough for Jim Scott and Richard Williams: they've done it with *two*.

First came the idea for strapless sun visors—plastic wedges that clip onto the wearer's head. Scott and Williams, figuring they could make enough to pay for their third year at the University of Georgia, convinced a mold maker to do the work for no money down, and they were off.

They bought a van "in anticipation of all the visors we'd be carrying to UPS," but the mold maker got behind schedule. Necessity being the mother of invention, they ran a few ads claiming "college students will move you for less," and they were off—again.

Within a year and a half, Bulldog Movers had 15 trucks and was the biggest intrastate moving company in Georgia. And last year, Alpha Products sold about 10 million visors.

Which company are they concentrating on now? Heeding the advice Dustin Hoffman so blithely ignored in *The Graduate*, Jim Scott earnestly answers: "Plastics. That's where we see our future."

	Company (1987 rank) Business description	Sales growth 1983–87 Percent increase	'87 sales ($000)	'83 sales ($000)	Profit range* '87	Profit range* '83	No. of employees '87	No. of employees '83	Date founded
411.	**Arizona Pipeline** Apple Valley, CA Underground utility construction	771%	$20,472	$2,350	D	C	369	103	1979
412.	**Van Horn Designs** (164) Alexandria, VA Mfrs. women's scarves & neckwear	771	2,334	268	D	F	44	7	1982
413.	**KOH Systems** (109) Rockville, MD Provides mgmt. consulting svcs.	769	8,608	991	D	C	180	40	1980
414.	**Law Auto Sales** Wayne, MI Sells used vehicles	768	3,741	431	D	D	11	3	1935
415.	**EC** (67) Knoxville, TN Provides engineering & CAD consulting svcs.	768	20,366	2,347	D	F	440	124	1977
416.	**Winter Gardens Salad** New Oxford, PA Mfrs. salads, soups, & desserts	763	5,531	641	D	D	116	31	1974
417.	**Straight Status** New Castle, IN Sells mkt. aids	763	2,131	247	D	F	20	5	1982
418.	**Schlott Realtors** (266) Wayne, NJ Provides real-estate brokerage svcs.	762	53,868	6,249	F	D	600	115	1971
419.	**Great Pickings Office Supply & Computer** Elgin, IL Retails office supplies	761	1,042	121	D	F	10	3	1981
420.	**Continental Traffic Service** Memphis, TN Provides auditing & payment svcs.	759	69,032	8,036	A	F	32	8	1955
421.	**N.T.B. Fastening Systems** Mosinee, WI Mfrs. plastic roofing fasteners	758	2,223	259	D	B	9	2	1982
422.	**Arizona Tube & Core** Phoenix, AZ Mfrs. paper tubes for packaging industry	753	1,271	149	D	F	15	2	1983
423.	**Life Design Systems** (472) Carrollton, TX Mfrs. & sells respiratory & anesthesia products	752	8,075	948	A	D	148	40	1977
424.	**Vesoft** Los Angeles, CA Designs & mkts. software packages	748	3,299	389	A	A	24	3	1980
425.	**Perma-Chink System** Redmond, WA Mfrs. coatings & sealants	748	2,051	242	C	F	13	5	1983
426.	**T.P.I.** Chamblee, GA Provides painting & wall-covering svcs.	743	2,041	242	D	F	85	35	1981
427.	**Action Awards** Snellville, GA Distr. screen-printed products	742	2,880	342	D	D	38	7	1973
428.	**Jones & Neuse** (169) Austin, TX Provides eng. & environmental consulting svcs.	742	5,261	625	B	A	67	7	1982
429.	**T & M Computer Supply** Westmont, IL Sells computer supplies	741	2,372	282	D	F	12	4	1977
430.	**MMS International** (468) Redwood City, CA Provides on-line market analysis	741	19,705	2,344	A	D	150	43	1974
431.	**Garrett/Lynn & Partners** Reno, NV Provides advertising svcs.	739	1,158	138	B	E	11	2	1983
432.	**Media Cybernetics** Silver Spring, MD Devs. computer based imaging & graphics software	734	4,437	532	B	A	50	5	1981
433.	**TYX** Reston, VA Mfrs. aerospace software systs.	733	3,807	457	A	F	23	18	1982
434.	**Data Systs. Computer Centre** (222) Springfield, NJ Sells & svcs. microcomputer equipment	733	64,183	7,708	D	D	201	50	1973
435.	**Corporate Supply** (125) Van Nuys, CA Supplies computer & office supplies	731	3,666	441	D	B	35	5	1982
436.	**MPM** Medfield, MA Mfrs. & mkts. screen printers	726	3,386	410	C	D	26	10	1968
437.	**Performance Coatings** (129) Ukiah, CA Mfrs. & mkts. clear wood finish	726	2,634	319	A	A	7	1	1983
438.	**Computer Advisory Group** Lancaster, PA Provides professional svcs.	726	1,131	137	D	C	15	3	1983
439.	**Bulldog Movers** Atlanta, GA Moves household & office furniture	725	2,104	255	C	D	70	20	1982
440.	**GHR Engineering Associates** New Bedford, MA Provides environmental consulting svcs.	723	8,736	1,062	D	D	90	20	1967
441.	**C.J.P. Development** (61) Cranbury, NJ Distr. & installs residential siding	722	8,659	1,054	D	D	250	50	1972
442.	**Burks Door & Sash** Carmel, IN Mfrs. & distr. building materials	719	2,645	323	C	C	11	3	1977
443.	**Personal Computer Centre** (149) Lawndale, CA Sells computer software & hardware	717	31,982	3,916	D	D	86	6	1976
444.	**Command Security** (358) Poughkeepsie, NY Provides security svcs.	715	4,059	498	D	D	500	100	1963
445.	**J.H. Benedict & Associates** Daytona Beach, FL Advertising agency	713	1,024	126	D	C	5	3	1974

A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss

#468
E-MU SYSTEMS INC.
SCOTTS VALLEY, CALIF.

Scott Wedge

How has a small U.S. maker of electronic musical instruments survived in an industry dominated by the Yamahas and Rolands of the world? Credit, in part, Michael Jackson.

When Jackson used E-mu Systems' experimental synthesizer to sculpt his best-selling album *Thriller*, E-mu became the talk of the town. By the time Japanese imitations started pouring into the States, E-mu already had the credibility of gold records and movie soundtracks—not to mention a whole new generation of products.

"Our lead time was several years," says chairman and CEO Scott Wedge. "And actually, by the time [the Japanese] got here, the exchange rate had shifted so radically that comparable synthesizers weren't any less expensive."

Despite the company's success, Wedge has been unable to tap any venture capital. "We've got 20 products we want to work on, but we can fund development of only one or 2. It's frustrating—the biggest threat we face from the Japanese isn't their technology, it's the fear they instill in investors."

	Company (1987 rank) Business description	Sales growth 1983–87 Percent increase	'87 sales ($000)	'83 sales ($000)	Profit range* '87	Profit range* '83	No. of employees '87	No. of employees '83	Date founded
446.	**Temporary Solutions** (417) Manassas, VA Provides temporary-help svcs.	713%	$5,956	$733	D	D	22	7	1980
447.	**J-B Wholesale Pet Supplies** Hawthorne, NJ Sells mail-order pet supplies	712	2,509	309	D	E	12	4	1982
448.	**Abington Steel** Brookville, OH Fabricates metal	710	2,860	353	D	F	28	5	1983
449.	**Victor Graphics** Baltimore, MD Prints & binds books & publications	709	5,556	687	D	F	50	15	1983
450.	**Sunquest Information Systems** (301) Johnstown, PA Creates & installs medical lab information systs.	708	21,514	2,663	C	A	145	18	1979
451.	**VIP Personnel** Durham, NC Provides permanent- & temporary-help svcs.	703	1,333	166	D	E	13	5	1967
452.	**Consul-Tech Engineering** Pompano Beach, FL Provides land planning & consulting svcs.	703	1,854	231	A	A	35	4	1982
453.	**John B. Sullivan Jr.** Bedford, NH General contractor	702	15,179	1,892	F	D	41	13	1970
454.	**Great Expectations** Los Angeles, CA Provides video dating svcs.	701	3,270	408	D	D	20	10	1976
455.	**Sunglass Distributors** Richmond, VA Wholesales products to grocery stores	700	808	101	C	C	5	2	1981
456.	**Empire Roofing** Fort Worth, TX Provides commercial & industrial roofing svcs.	699	1,645	206	A	[illegible]	18	6	1982
457.	**Villa Enterprises** Florham Park, NJ Owns & operates pizza chain	696	20,002	2,507	A	A	76	15	1969
458.	**ADM Video Productions** Port Washington, NY Produces videos & commercials	693	2,260	286	B	D	21	6	1981
459.	**Computer Consulting Svcs.** Upper Saddle River, NJ Provides computer consulting svcs.	692	824	104	F	F	11	3	1982
460.	**Sterling Boiler & Mechanical** Evansville, IN Mechanical contracting	692	16,565	2,091	C	[illegible]	200	30	1982
461.	**Playsystems** Maple Valley, WA Mfrs. playground equipment	692	895	113	D	B	7	2	1982
462.	**Penn Lyon Homes** (17) Selinsgrove, PA Mfrs. modular homes	691	40,303	5,094	C	F	370	71	1981
463.	**Coastal Production Services** Rockport, TX Provides oil-field & offshore production svcs.	689	1,515	192	C	E	28	4	1979
464.	**Omega Printing** Bensenville, IL Provides commercial printing svcs.	688	2,373	301	D	C	19	6	1979
465.	**UVEST Brokerage Services** Charlotte, NC Provides securities brokerage svcs.	688	938	119	E	F	7	5	1982
466.	**Chesapeake Industrial Leasing** Baltimore, MD Leases business & industrial equipment	686	1,407	179	C	F	19	6	1979
467.	**Just Brakes & Affiliates** Bryan, TX Provides auto repair svcs.	683	7,706	984	F	A	200	7	1981
468.	**E-mu Systems** Scotts Valley, CA Mfrs. & mkts. electronic musical instruments	683	9,643	1,232	D	C	105	42	1971
469.	**Sunny Waterbeds & Accessories** Orlando, FL Mfrs. waterbed frames & accessories	682	1,329	170	B	A	32	3	1982
470.	**MarketVision Research** (224) Cincinnati, OH Provides mkt. research svcs.	682	3,463	443	C	F	24	6	1982
471.	**Domation** Columbus, GA General contractor	680	858	110	C	F	12	2	1983
472.	**Kitchen Etc.** North Hampton, NH Retails kitchenware & dinnerware	678	4,958	637	D	F	28	5	1972
473.	**Sensor Developments** Lake Orion, MI Engineering firm	676	2,197	283	C	D	38	5	1976
474.	**J.C. Beal Construction** Ann Arbor, MI General contractor	675	4,738	611	D	F	20	3	1962
475.	**Sparta** Huntsville, AL Develops systs. & technology for space program	675	36,695	4,733	C	D	340	89	1979
476.	**Key Nursing** (376) Thibodaux, LA Provides nursing svcs.	669	3,001	390	D	C	400	60	1982
477.	**Ortho Management Systems** Norcross, GA Distr. dental hardware & software	669	6,126	797	C	D	52	3	1982
478.	**Skoda, Minotti, Reeves** (474) Mayfield Village, OH Accounting firm	667	1,265	165	D	D	22	4	1980
479.	**Marketing Masters International** Norcross, GA Distr. trade show products	663	1,068	140	D	F	5	1	1982
480.	**IKR** Houston, TX Provides international mkt. svcs.	663	923	121	D	F	4	1	1979

*A: 16% or more; B: 11% to 15%; C: 6% to 10%; D: 1% to 5%; E: Break-even; F: Loss

	Company (1987 rank) Business description	Sales growth 1983–87 Percent increase	'87 sales ($000)	'83 sales ($000)	Profit range*		No. of employees		Date founded
					'87	'83	'87	'83	
481.	**Computer Mgmt. & Dev. Svcs.** (272) Harrisonburg, VA Sells computer software	661%	$2,031	$267	F	F	52	10	1980
482.	**Five Star Industrial Services** West Chester, PA Mechanical contractor & shop fabricator	660	3,900	513	D	F	66	12	1979
483.	**Murphy & Associates** Mercer Island, WA Provides data-processing svcs	660	1,117	147	D	B	21	7	1981
484.	**American Computer Professionals** (277) Columbia, SC Provides computer consulting svcs	659	5,991	789	C	E	110	25	1979
485.	**AmeriTemps** Indianapolis, IN Provides temporary-help svcs	659	1,230	162	D	F	5	2	1983
486.	**Strategic Management Group** (188) Philadelphia, PA Mkts. business simulations & mgmt. software	657	4,241	560	C	A	40	6	1981
487.	**Southern Machine & Tool** Tampa, FL Produces aerospace components	656	2,738	362	E	F	45	5	1954
488.	**ERA Computers & Electronics** Los Altos, CA Sells computers & peripherals	656	8,671	1,147	D	D	28	6	1983
489.	**Windline Amanet** (365) Los Angeles, CA Mfrs. marine & industrial products	651	2,059	274	C	D	26	8	1980
490.	**Coast Surveying** Tustin, CA Provides surveying & mapping svcs.	651	1,608	214	D	A	26	6	1981
491.	**Pizza People** (456) Marietta, OH Owns & operates pizza franchises	649	18,816	2,512	F	D	700	220	1972
492.	**AIM Executive** (160) Toledo, OH Provides human-resource consulting svcs	648	7,840	1,048	A	A	60	23	1977
493.	**Bowser Cabinet & Casework** (259) Poway, CA Mfrs. cabinets	648	2,528	338	D	C	33	10	1979
494.	**Epcom** Troy, MI Develops engineering & automation computer systs	647	1,718	230	D	B	30	5	1981
495.	**Stride Rite Booteries** Reynoldsburg, OH Retails children's shoes	646	1,642	220	D	D	15	3	1983
496.	**Advanced Energy Industries** (179) Fort Collins, CO Mfrs. electronic power supplies	645	13,870	1,862	B	B	148	54	1981
497.	**Schuler & Sadowski** Somerville, NJ Provides advertising & PR svcs.	645	1,221	164	D	F	8	5	1964
498.	**Access** Roswell, GA Provides data-processing consulting svcs.	641	2,400	324	A	A	49	7	1980
499.	**Computer Source** Greenville, SC Retails computer systs.	640	14,373	1,943	D	D	100	15	1980
500.	**Atrium Medical** (386) Hollis, NH Mfrs. cardiovascular implants	638	3,304	448	A	F	25	12	1981

A. 16% or more; B. 11% to 15%; C. 6% to 10%; D. 1% to 5%; E. Break-even; F. Loss

#486 STRATEGIC MANAGEMENT GROUP INC.

PHILADELPHIA, PA.

KEN KAUFFMAN

Spero, Aronson, and Gekoski

Not enough money to make payroll? Creditors knocking on your door? No problem. Joe Gekowski will help. Gekowski and co-founders Leslie Spero and Michael Aronson, who head Strategic Management Group, aren't kind-hearted bankers. They're teachers. And the companies they bail out are created by a computer.

Who plays the training firm's game? Senior and middle managers of *Fortune* 500 companies, mostly. And sure enough, says Gekowski, many groups end up teetering on the brink of bankruptcy.

HOW THE INC. 500 WERE SELECTED

HERB SNITZER

Sara Baer-Sinnott

Putting together the INC. 500, like qualifying for the list itself, is a long-term team project. As soon as one year's package is sent to press, the process begins again, searching for nominees by contacting accounting firms, venture capitalists, state development agencies, trade associations, chambers of commerce, and business publications. More than 17,000 potential candidates received nomination forms this year.

To gain a spot on the 1988 INC. 500, a company must have been independent and privately held on August 1, 1988, the day applications were due. This year's rankings are based on the percentage increase in sales from 1983 through 1987. Each company must have shown an increase in sales between 1986 and 1987, and its sales in 1983 should have been no less than $100,000 but not more than $25 million. Holding companies, regulated banks, and utilities are not eligible.

Information on each application was verified by phone both with company officials and with their accountants—a painstaking task of checking and rechecking that falls mainly to our summer interns. If your company is on this year's list, you talked with Katherine Apruzzese, a Dartmouth College senior; Elizabeth Beebe, a senior at Amherst College; Vera Gibbons, a Trinity College senior; Jeff Kalil, a junior at Haverford College; or 1988 graduates Suzanne Maclachlan from Colby College or Lisa Pomeroy from Vanderbilt University. Gibbon's telephone manner must have been impressive—two CEOs asked her out, and another proposed marriage.

The INC. 500 is prepared under the direction of special projects editor Sara Baer-Sinnott. Also helping to compile the list this year was assistant research editor Deborah Weeks. Leslie Brokaw authored the brief profiles that appear among the listings. Senior editors Curtis Hartman and Michael Hopkins shared responsibility for the final package.

The information published here is the only material INC. will make available.

HANDS ON

A Manager's Notebook

WHO FOOTS THE BILL?

% of small companies offering employer-sponsored health coverage

	1978	'85
Manufacturing	**81%**	**83%**
Wholesale	73	73
Transportation	**60**	**73**
Construction	66	73
Financial svcs.	**56**	**65**
Professional svcs.	49	62
Retail	**46**	**58**
Service	48	52
Agriculture	**52**	**48**
All companies	57	65

The percentage of small companies (fewer than 100 employees) paying for health insurance has increased to 65%, but still lags well behind larger businesses. In 1986, 95% of all employees in medium and large companies participated in employer-sponsored health insurance.

National Federation of Independent Business Inc., 1985

LAW

BATTLING THE GRAY MARKET

If you subcontract with a foreign manufacturer, the gray market may be a threat to your business. But now, thanks to a recent U.S. Supreme Court ruling, you can help protect yourself by 1) carefully wording your agreement with the subcontractor, and 2) registering with the U.S. Customs Service.

Unlike counterfeit black-market goods, which are manufactured illegally, gray-market goods are legally produced but distributed in unauthorized ways. If, for instance, a foreign company has sold you its trademark for exclusive use in the United States, then tries to compete with you here by distributing the product itself, that product is a gray-market import.

Here's how you can help Customs guard your interests by blocking the product at the border. First, be sure that your relationship with the overseas manufacturer is contractually defined as licensee/licensor—if you're affiliated with the gray marketer as either parent or subsidiary, Customs won't protect you. And remember to let the Customs Service in on your arrangement: record your trademark with it. □

MANAGING PEOPLE

RECREATION BY COMMITTEE

An extensive, company-sponsored recreation and social program can be a boon to morale—but it can also be a fiscal and managerial nightmare to the CEO who has to administer it. Jack Stack, CEO of Springfield Remanufacturing Center Corp., in Springfield, Mo., was so intent on fostering healthy relations with his 450 employees that he began feeling more like a camp director with each passing athletic season. His solution? Set a budget, and then let your employees divvy it up themselves.

"It's really hard to please everybody," says Stack. "You don't know how to draw the line and be fair at the same time." So he established a recreation committee for each of his plants. Eight employees, elected annually, receive a budget of $5,000 with which to fund company softball and volleyball teams, fishing tournaments, and a company picnic. "It gets rid of the little headaches for managers," Stack says, "and it gives employees a taste of what it's like to be a manager." □

HIRING

AN EYE FOR DETAIL

You know that certain jobs in your company require workers with a passionate devotion to detail, and you do your best to hire people who will fit the bill. Trouble is, how can you judge whether an interviewee will exhibit the necessary zeal when actually on the job?

According to Ron Gregg, CEO of Outdoor Research Inc., in Seattle, the best way to figure it out is simply to listen. When Gregg, whose company makes expedition equipment, interviews job candidates and escorts them on a company tour, he pays careful attention to their offhand remarks and casual observations—either about their past experiences or what they're seeing at his company.

"If someone is vague in a description of his or her past job, it's a tip-off," Gregg says. "We had to interview about a hundred people before we found our current production manager, who was the only candidate to remark on the stitching, fabrics used, and other details in our products." □

FINANCE

'IF YOU WANT US TO GAMBLE, YOU'LL HAVE TO GAMBLE, TOO'

Suppose you've shopped your borrowing needs and decided that the lender you *really* want to work with is too pricey. You negotiate hard for an upfront rate cut, but the bank won't budge. Is there anything else you can do to persuade your banker to reduce your interest expense?

Probably, says Dean Treptow, CEO of First Bank Brown Deer, in Brown Deer, Wis.: try proposing a wager. "As bankers, we look at past performance. Customers, however, want us to consider future projections—including things like new contracts that will bring higher earnings, or plans to reduce their leverage ratio. We'll say, 'Fine, but if you want us to gamble, you'll have to gamble, too.' "

Here's how it works: let's say the bank is offering prime plus 2%, and you want prime plus 1%. The bank makes the loan at the higher rate, but skims off the amount representing the one-point difference—say, $10,000—and puts it into an escrow account. If you achieve the agreed-upon projections, you get the money back. For partial achievement, you get a partial return.

And for zero achievement? Not only would you forfeit all the money, but you'd be forced to concede that the banker was, in fact, right in the first place. □

CHARTS: CYNTHIA DAVIS

HANDS ON

A Manager's Notebook

BANKING RELATIONS

KEEP IN TOUCH WITH NUMBER TWO

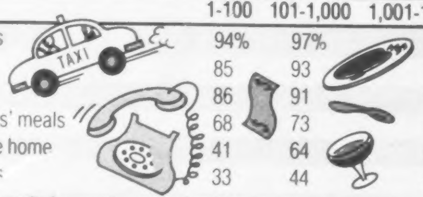
A common frustration in dealing with banks comes from watching loan officers move on just as you are getting comfortable in the relationship.

While there's little you can do to prevent what sometimes seems a lemminglike migration of bankers, you *can* help cushion the potentially damaging blow to your business. How? Cultivate a relationship with the junior officer on your account.

"That's the person likely to be handling the day-to-day activities of your account anyway," says JoAnn Eick, assistant vice-president of Society National Bank, in Cleveland. "If a new senior officer is brought in, you'll have some continuity." And if the junior person is promoted, you'll already be a step ahead as the game starts again. □

A SURVEY OF T&E POLICY

% of companies that reimburse employees for business travel and entertainment costs



	Company size (# employees) 1-100	101-1,000	1,001-10,000
Meals	94%	97%	98%
Taxi	85	93	94
Tips	86	91	93
Guests' meals	68	73	70
Phone home	41	64	66
Drinks	33	44	38

Survey results from previous years show there has been little change in reimbursement policy for most expenses. However, willingness to cover guests' meals (95% to 71% overall), and drinks (55% to 39% overall), has decreased.

Source: Administrative Management Society

MARKETING

IT DOESN'T HAVE TO BE FREE TO BE GOOD

Few companies these days fail to recognize the importance of offering great customer service, but that doesn't mean you have to give it away. Karmak Software Inc., in Carlinville, Ill., abandoned an old-style service policy for one that asks customers to pay more if they want more support—and the switch has worked.

Under the old plan, a fixed customer-service charge was tacked onto every sale. Customers treated the add-on as just another component in the software price, and didn't hesitate to call on Karmak's service department as if its time were free. Service costs, says CEO Richard Schein, began wrecking the company's bottom line. "Instead of using the manuals or actually learning the system, people would call us with every itty-bitty problem. And we were paying for it because we guaranteed unlimited consultation after the sale."

When Schein studied actual customer-service activity, he found no correlation between number of calls made to Karmak and the size of a customer's system. "We just found that some customers want Karmak to take care of everything, while others have a systems manager and rarely need us."

Now, customers must sign up in advance for the level of service they want—a set number of calls per month and a surcharge for calls in excess of the contracted number.

"If a customer wants us to answer a simple question that could have been looked up in the manual, or if he has such high turnover that we have to go in and train people again and again, it's not a problem," says Schein. "They're paying for it, not us anymore."

Schein won't say how profitable customer service has become, but he claims, "It's so great we doubled the size of the department." □

QUOTE OF THE MONTH

> *'All the entrepreneurs I know want to retire and become venture capitalists. But all the venture capitalists I know want to retire and become entrepreneurs.'*
>
> *—Stevan Birnbaum, of Oxford Partners, a Santa Monica, Calif., venture capital firm*

TRAINING

BOOK OF THE MONTH CLUB

What with all the daily newspapers, weekly magazines, and trade journals you have to read, odds are you don't have time to read the books that might help you—or your employees—run your business.

Alison Davis, who runs a public-relations firm in Hackensack, N.J., has a potential solution: book reports.

Once a month, an employee of Davis, Hays & Co. talks about a book he or she has read. "We don't assign books," says Davis. "The book just has to be related somehow to our business, and you have to give an old-fashioned, sixth-grade book report. You tell us what the book was about, what was interesting, and what you learned that would help us."

The company pays for the books, employees can read them on company time, and the book reports are given during office hours.

The reports have an added benefit, says Davis. "Since we go before the group and use overhead projectors and charts, it helps us work on our presentation skills." □

Reported by Paul B. Brown, Leslie Brokaw, Teri Lammers, and Ellie Winninghoff

SEEING IS BELIEVING

Some tips on the use of video camcorders in business

BY CARY LU

It's a rare technology that moves from the home into business. Telephones and computers, for example, became household regulars only after they were well established in business. Video cameras and recorders, in contrast, have been popular in homes for a decade and only recently have begun moving into the workplace.

Most businesses still reserve videotapes for special occasions, such as trade shows. Demonstrating a piece of machinery can be done much more effectively with pictures and sound than in print. Training new employees might also best be done with the help of video.

But consider, too, your weekly management presentation. Practicing in front of a mirror might show you a few ways to improve your form, but watching a videotape of a real meeting is the best way to see yourself as others see you. Applied analytically, this technique can lead to dramatic improvements in the style, and even the content, of your presentations.

Or what about using video to keep an audiovisual notebook? You can tape a company meeting or a conference for those who couldn't make it, put together a realistic tour of potential new office or store locations, and even record interviews with job applicants to let more people in your company size up potential hires.

Finally, consider this idea: instead of putting your polished 10-minute product profile on a cassette with only 10 minutes of tape (as most professional duplicating services do), put it at the beginning of a standard two-hour tape, and give this tape to your prospective clients. They can watch the tape at home and then rewind and reuse it for whatever they want. This strategy can ensure you private time with a prospect, time that may be hard to come by in a busy office.

You have two choices for making business videotapes: hire a professional video production company, or do it yourself. For critical tapes—a key sales presentation or public introduction—a professionally produced tape is usually the best choice. Expect to spend about $8,000 to $13,000 for a polished 10-minute video and far more if you want something really fancy.

For less-than-special occasions, however, doing it yourself is becoming more and more practical. To tape a presentation for internal review, for example, you need only a video camera, recorder, and a tripod—just aim and shoot. With the proliferation of equipment for the home video market, you have plenty to choose from for your average business needs. And you won't need to hire a professional photographer: anyone who has mastered a 35-millimeter single-lens reflex camera will have little trouble picking up the basics of making a business video.

So, to get video up and running in your company, you'll need to budget for the video maker's time, and make a onetime investment in equipment. A 10-minute video takes from a few hours to a day or so to make. The total outlay for basic equipment bought through a discount house is about $3,000 for a camcorder (a compact combination video camera and recorder), a tabletop videocassette recorder (VCR), a television, and an editing controller.

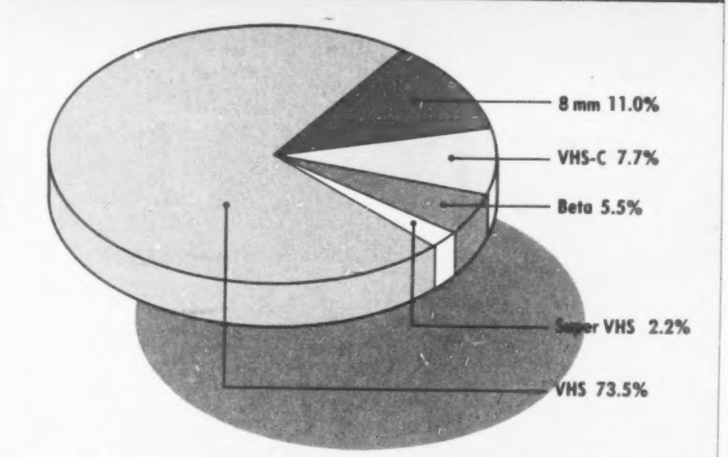
Equipment choices

What kind of equipment should you look for? The key difference among types of video equipment is format. Probably the most familiar format is full-size VHS, which has dominated the home VCR market since Sony's Beta began fading some five years ago. Today the main choice is between VHS and 8 millimeter.

VHS (Video Home System) is actually a family of formats that use half-inch-wide tape. Full-size VHS tapes hold two hours of video at the highest and best-quality speed, six hours at the slowest speed. (An eight-hour tape is available but not recommended for ordinary use.) Camcorders that take full-size VHS tapes are big and heavy; they are fine for use around the office but are cumbersome if you have to travel with them. The main advantage of full-size VHS camcorders is playback ease; you can pop a tape directly from the camcorder into any VHS deck.

VHS also comes in a compact format called VHS-C; the tape cassettes and camcorders are about one-third as big as full-size VHS equipment, so they are much easier to take on the road. With a slightly awkward adapter, VHS-C cassettes can also be played on any VHS deck. VHS-C cassettes run for only 20 minutes at the standard recording speed, however, so they are not suited to long taping sessions.

1988 SURVEY OF HOUSEHOLD VIDEO CAMERA OWNERS



Source: *1988 Consumer Photographic Survey*, Photo Marketing Association International

The type of camcorder you choose for business use will depend on many things, not the least of which is convenience.

BRUCE SANDERS

At the slowest speed, a VHS-C cassette will run for one hour, but you must be willing to accept a poor picture.

Better video-recording techniques have modified ordinary VHS to produce two other formats that boast a significantly sharper picture: full-size Super VHS and compact Super VHS-C. Super VHS decks and camcorders can record and play back ordinary VHS tapes, but an ordinary VHS recorder cannot play back a Super VHS tape. Both ordinary and Super VHS images can be viewed on any television, however. The improvement of Super VHS over ordinary VHS is striking enough so that if you decide on the VHS format, you should get Super VHS for recording tapes.

Even smaller than VHS-C or Super VHS-C, and technologically more advanced, is the 8-millimeter format (not to be confused with 8-millimeter movies). About the size of an audiocassette, an 8-millimeter tape can hold as much as two hours at normal recording speed and four hours at slow speed. The 8-millimeter VCRs and camcorders are better designed than their VHS counterparts, and the format has other advantages as well.

Because the format is small, 8-millimeter camcorders can incorporate a full set of recording and playback features that are lacking in VHS and VHS-C camcorders. Smaller size means lower power requirements: an 8-millimeter camcorder can use smaller batteries than a VHS model. And 8-millimeter has a special advantage: because compatible equipment is rare in homes, your employees are less likely to borrow the camera for their kids' birthday parties. The one area where the 8-millimeter format lags behind VHS is picture sharpness, but an updated format, 8-millimeter Hi-Band, which should have about the same sharpness as Super-VHS, will appear by 1989.

Once you have decided which format you like, choosing a camcorder boils down to its features, including convenience. Just reading the specs of different models won't tell you everything because overall convenience depends on your specific combination of camcorder and playback VCR. (See box, "What to Look for in a Camcorder," page 170, for a comparison of four popular camcorders.)

Video cameras have been popular at home for nearly a decade, but have just begun moving into the workplace.

Editing techniques

A videotape will almost always need editing before it is presentable. A rough but effective form of editing can be accomplished during playback with indexing, a feature on many recent VHS and 8-millimeter camcorders and VCRs that invisibly marks the beginning of every scene on a tape. When you are playing back an indexed tape, you can skip to the next scene or skip a number of scenes. You haven't eliminated the bad or unnecessary takes, but at least you can fast-forward past them.

To make a finished video, you need to create an edited tape by copying, or dubbing, selected sections from the original tape onto a new tape. You can do this man-

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AMERICAN PRIDE ON DISPLAY

WHAT TO LOOK FOR IN A CAMCORDER

A shopper's guide

Four popular camcorders are reviewed here—Sony's 8-millimeter CCD-F40, and three Super VHS-C models: Panasonic's PV-S150, Toshiba's SK-S80, and Zenith's VM6500. (These models, and many others on the market, may also be sold under different brand names. The Zenith VM6500, for example, is the same as the JVC GR-S55, and the Panasonic PV-S150 is also sold as the Magnavox VR9260.) All four are priced below $1,700, and all work well, although they are quite different. Whatever camcorder you decide on, you will need at least two accessories: a spare battery and a tripod, which can eliminate the shaky pictures that always plague handheld shooting.

■ **Size and handling.** All four models are the compact variety that most people should opt for, with the Zenith being the smallest and the Toshiba the largest. To shoot, you hold the unit in front of you, much like a still camera. (Full-size VHS camcorders have one advantage over these compact units in that they sit on your shoulder while you are taping, a more stable position).

Of the four, the Zenith handles best: its handgrip is near its center of gravity, and its controls are well placed for easy operation. Sony's 8-millimeter unit ranks second in "feel." The handgrip on the Panasonic is so far forward that the camera does not balance well in your hand, and its controls are less convenient. The relatively bulky Toshiba has its tape-transport controls (play, rewind, and so forth) on top toward the front, where they are hard to operate quickly. It ranks last for handheld shooting, but it is the only model that comes with a full-function remote control that lets you shoot without being next to the camera.

■ **Picture quality.** The images produced by all three Super VHS camcorders are sharper than the 8-millimeter image, but, as it turns out, sharpness isn't everything. In a comparison of the same scenes shot with all four camcorders, indoors and out, bright colors in the 8-millimeter picture came closest to what you see with the naked eye; there was less distortion of straight lines; and the light and color in scenes with bright sunlight and dark shadows were better balanced. Among the Super VHS models, the Toshiba gave the best picture. The Panasonic was next, trailed by the Zenith, which had the most trouble handling mixed sunlight and shade.

■ **Sound quality.** Camcorders all have built-in microphones, which pick up sound effectively as long as your subject is close enough. The built-in microphones also record sounds you may not want; in a quiet location, you can pick up the camera motor. The Sony is the quietest of the four models. The Panasonic runs a close second, and the Toshiba and Zenith camcorders pick up a little motor noise in a quiet room. All the camcorders can also accept external microphones.

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ually with two connected VCRs: put the original tape in one VCR (the playback deck) and record onto the second (the recording deck). The process—starting and stopping each deck as you find the scenes you want to preserve—is tedious, and the results are usually pretty ragged unless you are able to control the decks accurately.

The first practical device for making do-it-yourself video editing easier is the editing controller DirectED, from Videonics Inc. You mark the beginning and end of each scene you want to keep, and DirectED assembles them semiautomatically. DirectED works with most video equipment, including camcorders; the only requirement is that the recording deck have an infrared remote control, which the DirectED uses to turn the deck on and off. For editing 8-millimeter tapes, Hama makes Videocut 10, an editing controller that takes advantage of the Control "L" remote-control jack built into most 8-millimeter camcorders. The recording deck can be any format with an infrared remote control.

If you've mastered a 35-millimeter single-lens reflex camera, you can pick up the basics of making a business video.

You'll want multiple copies of many of the videotapes you make. If you need more than a few, send the original finished tape to a video-duplication service. With two VCRs, you can make copies yourself, of course, and you can convert your tape to another video format. To convert an 8-millimeter original into VHS, for example, you'll need to copy from an 8-millimeter VCR connected to a VHS recorder. For tapes you are planning to circulate outside your company, you will almost always want copies in the full-size ordinary VHS format, which is currently the most widespread in the consumer market.

In the future, personal computers will play an increasing role in business video production. Camcorders and VCRs will come with built-in computer interfaces, so a complete editing system could be built around a personal computer. Such a system will be much easier to use than the editing equipment available today. Improvements of this kind will help make video indispensable to businesses. ☐

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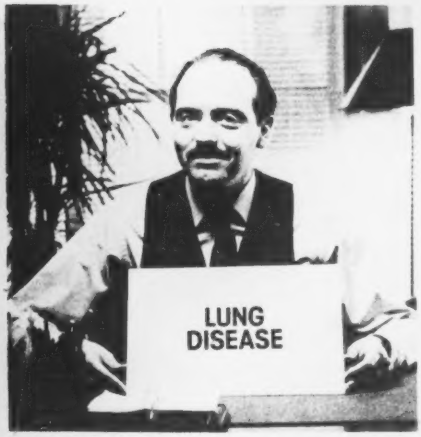
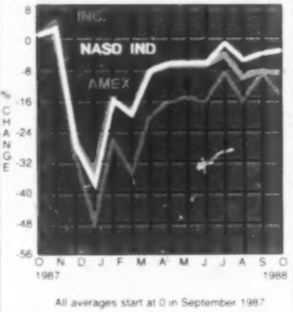


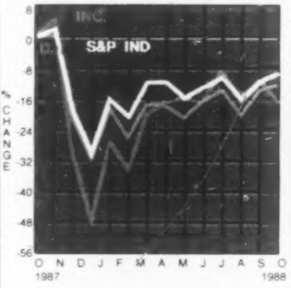
INVESTING IN GROWTH COMPANIES

INC. vs. CONSERVATIVE AVERAGES



All averages start at 0 in September 1987

INC. vs. SPECULATIVE AVERAGES



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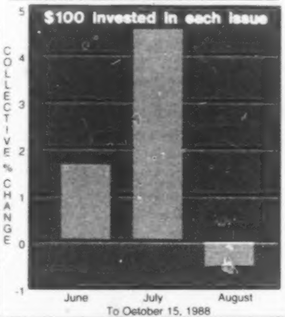
IPOs IN THE AFTERMARKET



INITIAL PUBLIC OFFERINGS: SEPTEMBER 1988

O-T-C sym.	Company	Business/product	Offering Size ($mil.)	Offering Price	First aftermarket bid	Underwriter
AAF[a]	**American Government Income Portfolio**	Closed-end fund	187.50	10.00	10	Piper, Jaffray
NGAS	**Associated Natural Gas**	Gas transmission & distr	18.75	10.00	9⅞	Dillon, Read
APCOU	**Automobile Protection**	Provides administrative svcs. to car industry	3.60	5.00[c]	8¼	D. H. Blair
CMLE	**Casual Male**	Operates mens' clothing stores	12.50	10.00	9⅞	Alex. Brown
DFSE	**DF Southeastern**	Savings & loan	27.32	11.00	11	Robinson-Humphrey
FT[a]	**Franklin Universal Trust**	Management investment co.	230.00	10.00	10	Paine Webber
HTG[b]	**Heritage Media**	Owns & operates TV & radio stations	22.50	4.50	4½	R. G. Dickinson
MVF[b]	**MuniVest Fund**	Closed-end fund	480.00	10.00	10	Merrill Lynch
RM[b]	**RYMAC Mortgage Investment**	Real-estate investment trust	52.00	10.00	10	Drexel Burnham
TPLXU	**Topologix**	Mfrs. home-improvement prods.	3.30	6.00[d]	6	Wakefield Financial
WWTK	**Weitek**	Supplies VLSI circuits	16.00	10.00	10¼	Morgan Stanley
WOI[b]	**World Income Fund**	Closed-end fund	270.00	10.00	10	Merrill Lynch

Initial public offerings sold at $1 or less not included. First aftermarket bid is approximate. [a] trading on NYSE. [b] trading on AMEX. [c] units of 3 common + 3 warrants. [d] units of 6 common + 1 warrant. Offering data source: *GOING PUBLIC: THE IPO Reporter*, a publication of The Dealer's Digest Inc., 150 Broadway, New York NY 10038.

STREET TALK

The media turned the anniversary of the 1987 crash into an event. TV crews broadcast from the exchange floor, magazines quoted economists, but for all the to-do, scant advice was aired. That's because even a year later, no one knew what to make of the meltdown: leastwise the New York Stock Exchange. As a hastily contrived anniversary present, the NYSE promised to suspend all trading for an hour should the DJIA fall 250 points. That useless gesture was rendered yet more ineffectual by its not even being expressed as a percentage. Wouldn't it make a significant difference if the 250-point plunge started from Dow 1,500 rather than 3,000? The NYSE, which otherwise rubber-stamps its members' bidding in terms of computer arbitrage and similar screw-the-little-man indulgences, threw another sop to the public by ruling that after a certain stage of panic, small orders would take precedence over institutions'. *That's* the best that emerged from the Brady Commission?

The main reason a marketwide intraday suspension is exactly what *shouldn't* be enacted is that as the DJI approaches a predefined trigger point, portfolio managers would shovel on even more stock in hopes of getting rid of it before the market closed, to reopen perhaps hundreds of points lower. Such dread would no doubt exacerbate a panic, not stem it. The NYSE already provides for a halt in trading in an individual issue when there is an imbalance of orders that the specialist firm can't handle on its own. The delay provides breathing room during which the specialist can drum up matching orders. If the NYSE assumes that when the entire *market* takes a breather every specialist need make a few phone calls to get his stock going in orderly fashion an hour later, maybe we'd better rethink more severe controls, like Japan's. A blanket shutdown, even a brief one, threatens to set commerce back to 1933, when FDR bought time by declaring a bank holiday. You know what happened next. *—Robert A. Mamis*

CHARTS: IMAGEBUILDER DESIGN

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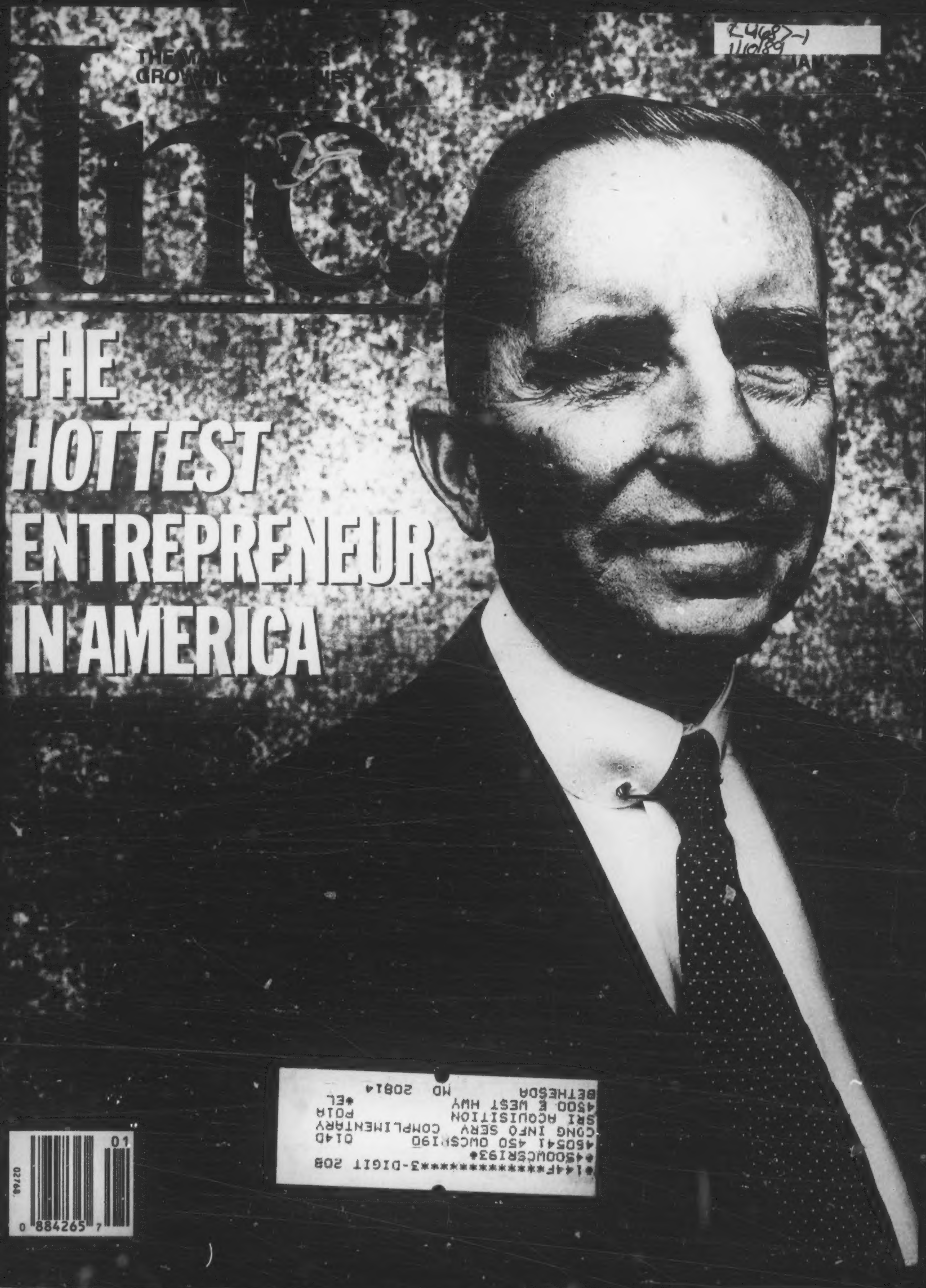

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COVER PHOTOGRAPH
by
Nigel Dickson

INSIDER

A CAPITAL IDEA

It's too early to start cheering, but the Securities and Exchange Commission may soon make life a lot easier for companies in need of outside capital. Last October, it quietly released a proposal to change the rules that govern private-placement trading. If adopted, the new rules could dramatically alter the burgeoning private-placement market, making it easier and cheaper to get loans and equity.

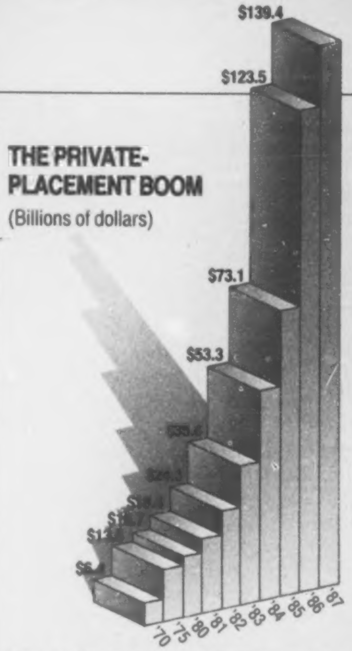
The changes are designed to loosen the restraints on private-placement buyers, who are now generally required to hold an investment at least two years before selling it to another investor. The current rules thus limit the ease with which insurance companies and other institutions can tailor their private-placement portfolios to fit their internal cash-flow needs.

The new rules would make the private market a lot more inviting for institutional investors. Institutions would be free to sell private placements immediately, without notifying the SEC, as long as the securities are bought by investors with assets greater than $100 million. In addition, smaller institutions (such as banks and pension funds) with more than $5 million in assets would be allowed to buy securities not listed or traded publicly on any U.S. exchange.

All of this adds up to that most desirable trait in a market: liquidity. The more easily an investor can shed an investment, the more likely he or she is to make it in the first place. The implications? First, the cost of private-placement capital would probably fall, since investors wouldn't have to cushion themselves from the risks of being saddled with an investment over a long period. Second, a more liquid market is likely to attract a greater number of institutional players—with the result that capital seekers may find themselves in the enjoyable position of watching institutions compete for their business. Many investors will be actively looking to make loans in areas previously ignored by established players, according to James R. Wilson, senior vice-president of Equitable Capital Management Corp.'s private-placement unit. One target market: smaller companies.

None of this is likely to happen overnight, however. The SEC took two years to develop the proposed rule changes; it will undoubtedly take several months before making them formal.

—*Ellyn E. Spragins*



THE PRIVATE-PLACEMENT BOOM
(Billions of dollars)

SAM WARD

Source: IDD Information Services and *Investment Dealers' Digest*

Annual volume of private placements
The private capital market just keeps growing.

FAILURE 101

To get a good grade in Jack Matson's class, you have to fail—badly. That's because the goal of the course at the University of Michigan business school is to "maximize learning from failure," according to Matson. "If you are doing something innovative, you are going to trip and fumble. So the more failing you do faster, the quicker you can get to success."

BRENDAN ROSS

Professor Jack Matson with students
Can he succeed in teaching them failure?

In that spirit, Matson begins his course by giving each student a bunch of Popsicle sticks and telling them to make something ridiculous that will never sell. This year's class came up with such contraptions as a hurricane-strength box kite and a device that supposedly allows you to identify the sections of the brain. Matson then instructed the students to go out and peddle these things, hoping they would feel the sting of failure. Inexplicably, two-thirds of the students sold their inventions. "My exercises sometimes have to fail," the professor admits. Students also write a Failure Résumé, designed to show how their failures have shaped them, and they observe Dress for Failure Day, by coming to class in ridiculous getups, because—says Matson—"in taking risks, you are bound to look foolish."

Matson traces the genesis of his course back to the day six years ago when he was hit by lightning. "When I came really close to the *ultimate* failure, I decided that I wanted to bring out creative things inside of me." A civil-engineering teacher, he tried some new courses ("a big failure") and launched a consulting business ("a total flop"). Soon he had developed a new expertise. "Failure is my thing," he says proudly.

By the end of the semester Matson's students must actually start a business. What if they don't? "Those who fail the course can take it again," he says. "But I firmly believe it's within every student not to fail at failure."

—*Joshua Hyatt*

HANDS OFF

It's a dirty job, but somebody's got to do it, and Eugene T. Hearl Jr. thinks he is just the guy. His business: cleaning up dog droppings in backyards. After 20 months in operation, his company—Gene's Canine Waste Removal Co., based in Syracuse, N.Y.—claims "well over a hundred" clients paying $5 a week to have their lawns de-pooped. Meanwhile, Hearl, a former plumber, keeps looking for new lawns to conquer. He dreams of operating in every city and town in America. "I want to be number one in the 'number two' business," he says.

—*M.E.M.*

MIKE REED

INSIDER (continued)

THE DISCIPLES OF DAVID BIRCH

A new generation of researchers is out to discover how the U.S. economy really works

BY JOHN CASE

At first glance, it could be just another scholarly skirmish—a dispute among professors over the reliability of certain job-generation statistics. But the real subject of the debate is something far more important: the role of entrepreneurship in the revitalization of the U.S. economy.

The statistics in question first surfaced nearly 10 years ago, when Massachusetts Institute of Technology researcher (and INC. columnist) David L. Birch wrote that small businesses create 82% of new U.S. jobs. It was a preliminary number, based on a pioneering method of study, and it has long since been revised and refined to reflect variations of time and place. But Birch's critics are still gnawing on that old figure. "Small businesses do not create 82% of all new jobs," trumpeted a headline on a May 1988 *Chicago Enterprise* article by George Kalidonis, a professor at the Keller Graduate School of Management, in Chicago. Alleging "faulty methodology"—misinterpretation of data and other statistical sins—Kalidonis the following month announced that 82% was a "dubious claim." In April two Harvard economists published an article in *The Washington Post* purporting to debunk small-business mythology. And what was Myth #1? You guessed it—that small businesses create 8 out of 10 new jobs.

As it happens, these particular critiques themselves reflect a breathtaking combination of misunderstanding and sloppy research (see box, "Birch's Revenge," page 40). But the critics' ineptitude is perhaps less telling than the passion and thrust of their arguments. If there's going to be a backlash against the Age of Entrepreneurship, we may be witnessing the opening salvos.

Consider: For most of the postwar era, the well-being of the U.S. economy seemed to depend on the health of its large companies. When some of the biggest ones found themselves battered by foreign competition, the economy as a whole felt shaky. But in the 1980s the picture changed dramatically—and quickly. Hot new growth companies flooded the market with everything from clothing to computers. Wall Street's over-the-counter market woke up. Venture investing boomed. In this climate, David Birch's widely publicized figures about small-company job generation were electrifying. They alerted both Congress and local economic-development officials all over the nation to the importance of these new companies,

▶ STORY PROPOSAL ◀

The debate keeps raging: How important are small, growing companies to the U.S. economy? Do they really create most of the new jobs? There's a lot of bad information on the subject being bandied about—but increasing numbers of researchers are assembling hard evidence, even going out and counting companies themselves. Let's talk with them and report what they're learning. —J.C.

RICHARD HOWARD

DAVID L. BIRCH

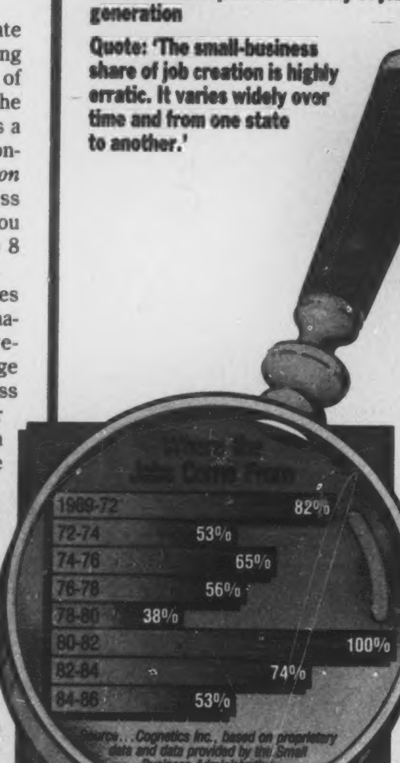
Age: 51

Affiliation: Massachusetts Institute of Technology

Background: physics

Claim to fame: pioneer in study of job generation

Quote: 'The small-business share of job creation is highly erratic. It varies widely over time and from one state to another.'



Source . . . Cognetics Inc., based on proprietary data and data provided by the Small Business Administration

The small-business job engine
What percentage of jobs did companies with fewer than 100 employees create?

ALL CHARTS BY SCOTT MACNEIL

BIRCH'S REVENGE

The only thing you'll ever have to read about job generation

Pity David Birch. Not long after he wrote "The Job Generation Process" back in 1979, two researchers employed by Washington's Brookings Institution published a paper declaring him wrong. They had examined the job-creation data for 1978 to '80, they said, and discovered that small companies created only about 40% of the new jobs, not the 82% Birch had claimed for the years 1969 to '76. Maybe Birch had screwed up, they suggested, by confusing *companies* with individual workplaces. If IBM builds a new distribution facility and hires 100 employees, that's not a new business.

Today, many years later, the charge lives on. George Kalidonis, a professor at Chicago's Keller Graduate School of Management, refers in a recent article to "Birch's curious practice of counting branch offices of large corporations as 'small businesses.'" Harvard faculty members James Hamilton and James Medoff write in *The Washington Post* that "Birch generally defined business size by the number of people who work at a given location rather than the number working for the firm in total." Both cite the Brookings figure as evidence that Birch was wrong.

Well, Birch wasn't wrong. He never confused companies with establishments. On the contrary, he had undertaken "the massive task of assembling all the individual establishments into the 'families' (or firms) to which they belong." Eventually, the original disputants realized that their disparate conclusions were due partly to differences in their statistical methods and partly to real differences in the time periods they studied.

Methodological disparities persist. Researchers using the Small Business Administration's database—the original basis for the Brookings study—consistently come up with slightly lower estimates of job generation by small companies than Birch's. But the variation is typically small, and it's nowhere near as significant as the variation from state to state and from time period to time period. In recessions, for example, large businesses are typically cutting back their work forces, so small companies are likely to account for 100% of the net new jobs created. In boom times the proportion will be smaller. So it is with states. Minnesota, Massachusetts, and other states with many large, successful technology-based companies, writes Birch in his book *Job Creation in America*, find a larger share of new jobs coming from big companies. States such as Michigan, dominated by big-but-shrinking companies, find exactly the opposite.

So, what's the truth? Do small businesses generate 8 out of 10 new jobs? Only sometimes—and only in some places. "When you think about it," says David Birch with a smile, "it's perfectly obvious."

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thereby helping to spawn a range of policies favorable to entrepreneurship. They encouraged big corporations to seek out new businesses as customers, suppliers, and joint-venture partners. Before long, small business wasn't just an economic sideshow. It was the Main Event.

But the change in the program has left some members of the audience feeling restive. A front-page *New York Times* story last June reported a "reappraisal" of the value of entrepreneurship by a "growing number of influential scholars and business executives." The reappraisal, said the article, "marks a sharp departure from the years in which entrepreneurs were lionized by virtually everyone as innovators, and small companies were praised as the source of most new jobs." Washington, too, has witnessed a noticeable cooling of enthusiasm. "People on Capitol Hill used to sit up and take notice when you showed how a program would benefit small business," said one recently departed Small Business Administration official. "But lately I've been getting the response, 'Don't talk to us about helping small businesses. They already get too much.'"

In this context, potshots such as those against Birch echo well beyond the halls of academe. For the reality of entrepreneurship is that it flourishes best in a climate of support—when financial institutions provide capital, when large corporations pay attention to small ones, when governments at least don't obstruct company founders and at best offer them helping hands. That climate of support, in turn, depends in good measure on what scholars tell us about economic reality. If someone were to show that the whole entrepreneurial phenomenon is overblown and overrated—that the U.S. economy still depends, as it has for most of this century, on the health of its giant corporations—then the climate would turn chilly. And a lot of fledgling companies would be frozen out of the marketplace.

All of which makes the work of an eclectic collection of researchers—sociologists, political scientists, economists—of more than passing interest. For according to the mosaic of information this group is beginning to assemble, the entrepreneurial revolution may run far deeper than anyone has so far suspected.

The mosaic begins with a few basic pieces. How many new businesses are there? Where are they, and what are they doing?

Surprising as it may seem, no one yet knows definitive answers to such questions. No government agency disseminates comprehensive information on new companies nationwide. Dun & Bradstreet Corp.'s widely quoted "new incorporations" figure includes numerous entities incorporated purely for legal or tax reasons. The most widely used source of data is Dun's Market Identifiers (DMI) listing, which provides information on the roughly 6 million active companies in D&B's credit files. Birch's database begins with the DMI. So do the two databases maintained by the SBA.

If the DMI were a true census, it might be sufficient. In fact, it is limited in scope and uneven in quality, as even its defenders acknowledge. Many companies, particularly in the service sector, are likely to be a couple of years old before they come to Dun's attention, and smaller ones may never be listed at all. Since Dun's reporters are mainly interested in financial data, the information they gather tends to be spotty on matters such as start dates and sales figures. Birch and other researchers do their best to weed out obvious errors, to estimate the number of missing companies, and to correct for statistical quirks. But skeptics abound. "D&B," asserts economist Jonathan S. Leonard, of the University of California, "is pretty lousy data."

All this may explain how Paul Reynolds found himself counting companies. Reynolds, a soft-spoken sociologist, works at the

University of Minnesota. Several years ago—"in the midst of a career change," he says, which in academia means shifting from one research interest to another—he began thinking about the effects of entrepreneurship. Was it really making a difference to local and regional economies? How many new businesses were there, anyway?

As it happened, the people at the university's Center for Urban and Regional Affairs were interested in the same questions. So in 1984 Reynolds got a grant for a small pilot study, gathering information on about 550 new businesses in Minnesota. Two years later he contracted with the Appalachian Regional Commission, a 13-state development agency that is based in Washington, to do a full-scale survey of new-business creation and job generation in Pennsylvania. At the same time, he undertook a similarly complete study back home in Minnesota, this one funded by 10 separate agencies and institutes.

> *The critiques of David Birch reflect a breathtaking combination of misunderstanding and sloppy research.*

"Paul Reynolds," a colleague says admiringly, "knows more about this stuff than anyone else."

Reynolds set out both to measure the extent of new-business formation in the states he was studying and to learn more about the companies being created. His starting point, he figured, had to be the DMI. "It's an imperfect but necessary data source," he says. "There's really nothing else." But he knew too that he wanted firsthand information, gathered and verified by a staff he would hire and train himself.

By the time of the second Minnesota study, begun in early 1986, he had the methodology pretty well worked out. First, he ascertained that the DMI listed some 24,000 companies in Minnesota started between 1979 and 1984. Dividing that group by region, industry, and start date, he selected a representative sample of more than 5,000. The plan was that he and 10 researchers would call every company in the sample. When they reached executive officers of a business, they'd ask them a few screening questions, such as when the company was founded and whether it was independently owned.

Calling began in late fall of 1986. As the reports piled up, though, Reynolds noticed the same disconcerting phenomenon he had observed in his other studies. The D&B listings just weren't checking out very well. No, we're not a new company, some respondents would say. We just changed ownership, or restructured, or whatever, in the year you thought we started. Others had gone out of business. Still others couldn't be found at all or were invalid listings, such as duplications. All told, fully half of D&B's supposed new businesses didn't check out. That was almost exactly what Reynolds had found in Pennsylvania and in the earlier Minnesota study. If the case for entrepreneurship rested on the DMI, so it appeared, it was resting on a slim reed indeed.

But Reynolds wasn't through. Companies that qualified as both new and independent got a 16-page questionnaire. How many employees had they hired? Where did they do most of their business—just locally or in wider markets? Who founded the company, and why did it locate where it did? If the companies didn't respond to a couple of mailings, Reynolds's researchers got on the phone again and again, until they had good data on 75% of the group. Then it was time to put the information into the computer and see what it said.

What leaped out at Reynolds, in the end, wasn't the startling inadequacy of D&B's statistics. It was the startling importance of entrepreneurship *even after half the apparent new companies had vanished into thin air.* Like Pennsylvania, Reynolds discovered, Minnesota depended heavily on new-business formation for its economic growth. Translating his sample into statewide figures cut the number of new companies from the 24,000 listed by D&B to 12,000. But these new businesses alone accounted for 119,000, or 42%, of the 282,000 net new jobs added to Minnesota's economy between 1978 and 1986.

That figure was significant, particularly since it now had the kind of scientific validation D&B alone could never have provided. But it was still a dramatic understatement, because it didn't include any of the companies D&B missed. Reynolds made no independent attempt to estimate that number himself, relying instead on extensive calculations carried out by David Birch and Susan MacCracken a few years earlier. If the Birch-MacCracken estimates were accurate, Reynolds reported, new companies in Minnesota accounted for essentially all of the state's net job growth.

In analyzing the questionnaires, moreover, Reynolds realized that he was uncovering two distinct kinds of entrepreneurship—and that only one of them was really responsible for growth. Nearly three-quarters of the companies his staff contacted grew slowly—less than $100,000 in new sales per year—or not at all. Their emergence, Reynolds says, "tends to reflect a turnover or replacement process." But another group of companies seemed to be filling niches that hadn't existed before, as reflected in significantly faster growth. These fast growers—concentrated in the Twin Cities area—made up only 25% of all start-ups. But they accounted for 60% of new jobs attributable to new companies, 80% of new-company sales, and 80% of new-company

STEVE SCHNEIDER

PAUL REYNOLDS

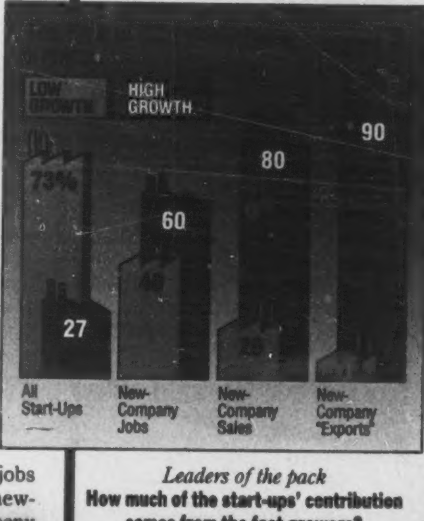
Age: 50

Affiliation: University of Minnesota

Background: sociology

Claim to fame: developer of field-tested database

Quote: 'It's a small fraction of these new companies that are making the real contribution. That's a controversial finding—it implies that public agencies might want to focus their efforts on just these firms.'



Leaders of the pack
How much of the start-ups' contribution comes from the fast growers?

JACK VAN ANTWERP

JOHN E. JACKSON

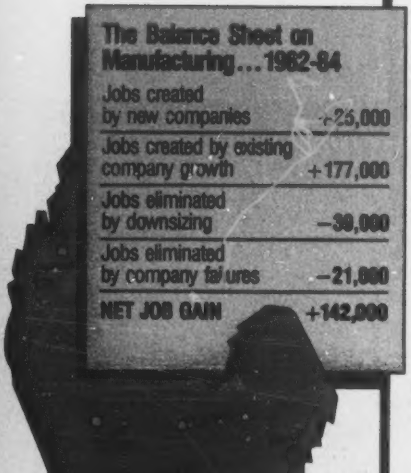
Age: 46

Affiliation: University of Michigan

Background: political economy

Claim to fame: pioneer in use of unemployment-insurance data

Quote: 'Despite the worst depression in 50 years, almost as many manufacturing firms started in Michigan as went out of business. In business services, there were three new firms for every two failures.'



The Balance Sheet on Manufacturing...1982-84

Jobs created by new companies	+25,000
Jobs created by existing company growth	+177,000
Jobs eliminated by downsizing	−39,000
Jobs eliminated by company failures	−21,000
NET JOB GAIN	**+142,000**

Good news from the Heartland
How did Michigan's manufacturers do following the last recession?

"exports," that is, goods or services sold outside of Minnesota. They were thus responsible for a vastly disproportionate share of the development that was attributable to entrepreneurship.

Paul Reynolds is one of the leaders of what might be called the "counting-companies" school of entrepreneurship studies. It's a demanding art, if only because it requires the practitioner to scare up large grants. As a result, its adherents are few. Even so, it promises answers to questions that have vexed public officials and businesspeople since the dawn of capitalism. Do tax rates affect new-company formation? (No, says Reynolds, they make no difference.) Do people move into a state to start a business? (No again—they start companies where they live). Does a region need manufacturing to prosper? (Doesn't seem so. William Beyers, a geographer at the University of Washington, contacted some 2,000 service companies in the Seattle area and asked about the extent of each company's exports outside the Seattle area. His conclusion: "The growth of our regional economy is being fueled as much by the export of services as by goods.")

At least some of the questions, though, may be answered more quickly—and less expensively—by a group of social scientists who are already mining a big, computer-readable, and largely untapped source of data about new businesses, compiled on a state level and completely independent of Dun & Bradstreet. Among this group is the University of Michigan's John E. Jackson.

Jackson, a political economist, had been doing research at Harvard during the early '70s, when the Massachusetts economy was still smarting from the southward migration of textile and other old-line manufacturers. "When I moved to Michigan in 1980, I heard the same story," he remembers, "only you had to substitute Japan for the Carolinas and automobiles for textiles. But now people were saying, why couldn't we be more like Massachusetts?"

With good reason. Between 1978 and 1982, Michigan lost close to 400,000 manufacturing jobs, more than half of them in the automobile industry alone. At the depth of the 1982 recession, unemployment hit an incredible 17%. "Residents were bombarded almost daily with stories of firms and people leaving Michigan for the Sun Belt," Jackson says. Asked to serve on an economic-development task force organized by Democratic governor James Blanchard, however, he realized how little was really known about the Michigan economy. That was when he began looking into the state's unemployment-insurance data.

ES-202 files, as state unemployment records are known, record every company operating in a state from the moment it establishes a payroll. They're updated quarterly, with new employment figures for every company. And they record company failures the moment a business stops incurring tax liability. A few states don't allow outsiders access to the files, while in others the files aren't easily accessible. Michigan offered no such obstacles—and the data, it turned out, were of high quality. "Not only are the data more timely than Dun & Bradstreet's," Jackson explains, "but Michigan is particularly good at flagging predecessor and successor companies [when a company is restructured or changes ownership]. D&B doesn't do that so well."

Uncertain as to what he would find, Jackson got tapes beginning in 1978 and ending, for the first phase of his research, in 1984. Running them through his computer, he found that the press had missed fully half the story.

Yes, the automobile industry was shrinking. Even during the post-1982 recovery it never came close to replacing the number of workers laid off in the recession. And yes, many other industries—steel, machine tools—had plenty of dying or declining companies. But side by side with this decaying economy was what amounted to another economy being born. New and growing companies were generating jobs by the tens of thousands. In manufacturing alone, nearly as many companies were created as went out of business. Of the manufacturers that had survived over the six-year period, more than half increased their employment, and the average increase was nearly 50%.

To Jackson, it was an astonishing picture. Everyone knew that Massachusetts had plenty of young, growing companies—but the Bay State was world famous as a hotbed of high technology. This was *Michigan*, a state that had always depended on durable-goods manufacturing and that was regularly berated for having one of the worst business climates in the nation. Moreover, though some of the new jobs were in predictable sectors such as computer services, many were in the same industries that seemed to be in decline.

In machine tools, for instance, Michigan began and ended the six-year period with roughly 1,850 companies. Behind that picture of stability, however, was a business maelstrom. Some 660 companies shrank. More than 400 went out of business entirely. But as many companies were born as died, and more than 700 of the existing companies expanded. Machine tools were not what Jackson or anyone else would call a sunrise industry, but it was, he found, a fertile ground for entrepreneurship and growth.

At the state level—the only level, for the moment, where ES-202 data are useful—such findings echo loudly. "Jackson's study helped convince us to keep supporting manufacturing," says Mark Haas, chief economist with Michigan's Department of Commerce. "We also learned to look not just at industries but at individual companies. Some businesses will be growing even in industries that are shrinking, and state economic-development policy has to take this into account."

What unemployment files or D&B listings provide are raw data, much like that in a census. The data tell the researcher how many businesses are starting up, what industries they're in, where employment growth is taking place. Surveys such as Reynolds's add information about the entrepreneurs and how they're building their companies. But such information isn't easy to evaluate. It raises as many questions as it answers. Would any state in any period show lots of new companies starting up? Do newer, smaller businesses have any advantage that older, larger ones lack? Historically, big companies in many industries have simply muscled out small ones. If that is changing, there must be reasons. The reasons, in turn, should shed light on how durable the current entrepreneurial trend is.

For better or worse, it's likely to be economists who answer such questions. They're the ones who are supposed to have both an overview of the economy and the theories to explain why it works the way it does. In the past, however, economics would have had surprisingly little to contribute. Most economists have been content to study inputs, such as employment trends and capital flows, and outputs, such as production figures and trade patterns, without examining the organizations that turn one into the other.

It may be no accident that Reynolds, Jackson, and nearly everyone else counting new businesses are not traditional economists. (In fact, David Birch was trained as a physicist.) When *real* economists study individual companies or industries, acknowledges Zoltan J. Acs with a smile, "they concern themselves almost entirely with the large companies."

> *What leaped out was the importance of entrepreneurship even after half the new companies had to be thrown out as bad data.*

Acs (rhymes with *scotch*) is one of a couple dozen academic and government economists who have been trying for several years to change this situation: to study how individual companies, small ones in particular, actually operate and thereby to evaluate the role that entrepreneurship plays in today's economy. As Acs and others describe it, creating such a field of study is remarkably similar to building a company. It takes money, a research technology, and a method of establishing yourself in the marketplace.

Money, in this case, was provided partly by the SBA's Office of Advocacy, created in 1976. Like many government agencies, the SBA disburses funds for studies it expects will bolster its mission. The technology, of course, was computerized data processing. "Only in the late '70s and '80s," explains Bruce Kirchhoff, former chief economist for the SBA, "were computers powerful and cheap enough to look at all the individual elements. You could tell the computer, 'OK, look at this list of a million firms and tell me which ones have added employees.' This was a revolution in methodology."

In academia, establishing yourself in the marketplace requires a combination of entrepreneurial marketing and rigorous quality control. Most of the entrepreneurship, everyone acknowledges, was provided by David Birch. "Birch did pioneering, pathbreaking work," Acs observes, "and not only that, but he publicized it widely." Quality control, however, was another matter, at least in the view of some. Birch came under attack for the reliability of his data. He was criticized for not publishing his work in refereed economics journals, where it would be subjected to professional scrutiny before publication. "Mainstream economists are quick to jump down other people's throats for doing something differently," one says, "and Birch was doing things differently. A lot of economists were skeptical."

Slowly, however, much of the skepticism about this nascent field of study has abated. Two well-respected economists, William Brock, of the University of Wisconsin, and David Evans, of Fordham University, published a book entitled *The Economics of Small Businesses* in 1986, a volume that one practitioner says "put this field on the map." Brock, Evans, Acs, and others have published several articles in leading economics journals. The first issue of an international journal called *Small Business Economics* appears this month. Acs is one of two managing editors, and professional luminaries such as MIT's Lester C. Thurow serve on the editorial board.

As a field, small-business economics is still young. But the findings these economists have come up with, so far, shed light not only on how extensive a role entrepreneurship plays in our economy, but also on why. According to the new journal's lead article—written by Brock and Evans—we are witnessing a historic reversal in the century-old trend toward bigness in the U.S. economy.

The figures they cite are striking. For roughly the first three decades after World War II, the average size of U.S. companies increased. The self-employed—a category that includes many small-company owners as well as sole practitioners—dropped from about 20% of the work force to only 7%. The small-business share of value added dropped 4%, its share of employment 6%. Sometime during the '70s or early '80s, however, nearly all of these figures turned around. Average company size decreased, self-employment rose, and small companies accounted for a slowly increasing fraction of the labor force.

This phenomenon, other economists have discovered, doesn't simply reflect the continuing transition of the U.S. economy from manufacturing to services. On the contrary, the growing importance of small companies

JACK VAN ANTWERP

BO CARLSSON

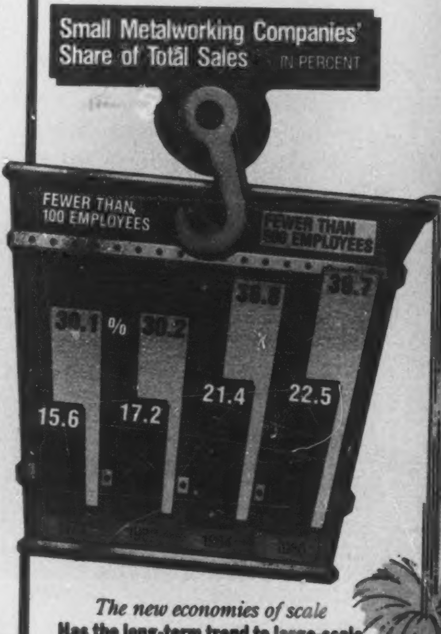
Age: 46

Affiliation: Case Western Reserve University

Background: economics

Claim to fame: ground-breaking studies of effects of technology on manufacturing

Quote: 'Customers want variety. That undermines economies of scale—the big firms can't keep those mass-production lines going anymore.'



The new economies of scale
Has the long-term trend to large-scale production been reversed?

RICH FRISHMAN

WILLIAM B. BEYERS

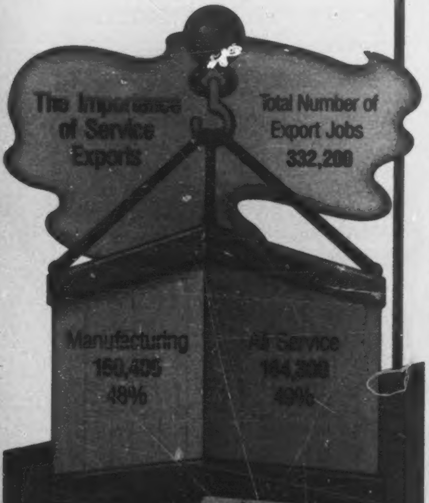
Age: 48

Affiliation: University of Washington

Background: geography

Claim to fame: pioneer in studying service exports

Quote: 'We found we were looking into a bubbling cauldron of entrepreneurship, laced with expertise, specialization, and exploitation of market niches.'



Prosperity and the service economy
How many jobs are Seattle's business sectors creating through exports?

shows up as strongly in manufacturing as elsewhere. Edward Starr, an SBA economist, combed the agency's database of companies for the years 1976 through 1984 and found that small manufacturers' share of output and employment was increasing in nearly every broad industrial category. Nationally, according to Starr's figures, small manufacturers added about 1.2 million jobs during the period, while large manufacturers were cutting some 300,000 positions.

Bo Carlsson, an economist at Case Western Reserve University, in Cleveland, turned up even more striking data on changes in the metalworking industries between 1972 and 1982. (Metalworking includes machinery, aircraft, automotive industries, computers, and nearly everything else we generally think of as serious manufacturing.) During that time, both average company size and average plant size, as measured by employment, declined in nearly three-quarters of the category's 106 classifications, while the *number* of companies and plants in the industry as a whole increased more than 25%. In a working paper, Carlsson, Acs, and David Audretsch had shown that companies with fewer than 500 employees increased their share of metalworking production from 30% to 40% in 10 years, while companies with fewer than 100 employees jumped from 16% to 23%.

"That's a tremendous change," Acs says. "It shows there's a change in industrial structure that's taking place, from larger firms to smaller firms."

The reasons for this change are still largely a matter of speculation. An account of possible causes reads like a list of the past decade's megatrends: A culture of entrepreneurship. A more competitive economy. Deregulation. The fragmentation of markets. In effect, figuring out the causes of these ongoing changes is the task that the new field of small-business economics has set for itself.

In the meantime, some of the directions this research might take can be gleaned from the work of Carlsson. Back in 1982, as he tells the story, he was a visiting scientist at MIT and wondering what had gone wrong with the U.S. economy. It was buried in a recession. It had been battered by foreign competition. In such a climate, Carlsson felt, companies might be inclined to "deglomerate"—to divest themselves of ancillary businesses and product lines, to shed divisions and departments, to trim their work forces, and to focus on their core markets. Certainly there was plenty of anecdotal evidence to support such a hypothesis—but how could it be tested?

If the hypothesis was correct, he reasoned, the evidence would lie in measures of value added. A vertically integrated company adds immense value to its inputs, taking raw materials in one end of the factory and pushing finished products out the other end. In the new, more specialized environment, companies would be focusing on individual parts of the production process and therefore adding less value. Sure enough: when Carlsson tabulated the numbers, the ratio of value added to shipments had declined over a 10-year period in 88 of the 106 metalworking industries.

Carlsson had also begun an intensive study of machine tools while he was at MIT and had noticed another phenomenon. "For more than 150 years, most changes in production technology favored large-scale manufacturing relative to small-scale production," he says. By contrast, today's computer numerically controlled (CNC) machines operate economically at lower production levels and can easily be reprogrammed to turn out a wide variety of customized products. That gives small companies a key advantage.

> ***Economists have found that the importance of small companies shows up as strongly in manufacturing as elsewhere.***

John Jackson, who studied the Michigan economy, independently confirmed Carlsson's thesis. Michigan's machine-tool industry, he discovered, was split right down the middle: declining or dying companies lost 18,000 jobs over a six-year period, while new or growing companies created 15,000 new ones. Jackson and two colleagues had surveyed the industry separately in 1984, asking not only about changes in sales and employment, but also about the type of technology used. By far the greatest growth, both in jobs and in sales, took place among companies that utilized only CNC equipment. These companies, moreover, were significantly younger and smaller than the industry average.

Ever since David Birch sat down with a yellow pad to report his job-generation results, the small-business community has been quick to perceive the political implications of this field of study. "I had never talked to a small-business person in my life, and I had no idea there were small-business advocacy groups out there," Birch says, recalling his astonishment at the reaction to his original study. "Suddenly there I was, getting an award as SBA researcher of the year." Agencies such as the SBA and lobbyists such as the National Federation of Independent Business quickly latched on to Birch's work. If small companies create jobs, their argument ran, the government should do all it can to help them. Studies such as those by Reynolds and Jackson created similar stirs at the state level.

Scholarly research and politics, however, are uneasy bedfellows. Advocates for small business, Birch points out, often neglect to mention that most small companies grow scarcely at all, and that the job-creating high fliers such as Microsoft Corp. and Mrs.

Fields Inc. frequently don't have much in common with more traditional small enterprises. On the other side, Birch's own work is mistrusted by some academics because of his reputation as a partisan of entrepreneurship, who oversimplifies the world on behalf of new companies.

The issue comes into sharpest focus over job generation. Nearly everyone now agrees that many of the new jobs created each year are in small companies. But, ask critics such as James Medoff of Harvard, how durable are the jobs? How well do they pay? In general, Medoff and other economists have shown, large companies pay higher wages and provide better benefits than small ones. And at least some studies suggest that larger businesses are more stable employers. "If a job generated today is gone tomorrow, another job will have to be generated," Medoff says.

Birch critic George Kalidonis takes a different tack, charging that attributing job *creation* to the small company that happens to employ a new worker is an oversimplification. If an Illinois company sells its widgets to a California firm, Kalidonis argues—and if the order requires new printed material, thereby leading to 10 new printing jobs—it makes little difference if the jobs are in a big company or a small one. "The jobs," he writes, "were created by the California buyer who placed the order."

The trouble with such arguments isn't that they're wrong, but that they miss the point. In the recent past, big business really did provide high-paying, stable jobs—in the steel industry, the auto industry, and many others. It can no longer do so. Most growing companies can't yet either. But at least they're providing some jobs to replace the 3.1 million eliminated by the *Fortune* 500 over the past eight years. Kalidonis's notion of a demand-driven economy, similarly, makes sense only if we assume it's always big companies that "place the orders" and that small companies can only respond to such markets. It allows no room for small companies buying from one another or for small companies creating new markets through innovation. Kalidonis is getting at the notion of an economic "base"—that is, companies that export their goods or services outside their home region. But these days small companies as well as large ones fall into that category.

All this skirmishing is likely to continue. Entrepreneurship has had a long day in the sun, and it would be surprising indeed if it didn't experience a backlash. From an academic perspective, however, it no longer depends on pioneers such as Birch or indeed on any single school of thought. More people are studying it than ever before. What they're learning is not simply that small companies create jobs, but that our economy is undergoing changes affecting businesses of all sizes. Maybe they'll help us, over the next several years, understand those changes better than we do now. ☐

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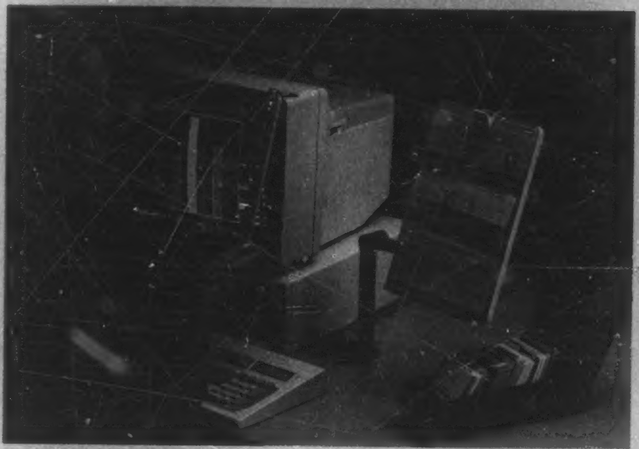

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HANDS ON

A Manager's Notebook

TRAINING

LEARN FIRST, PAY SECOND

New, more efficient equipment is great, but it won't help your company until your employees have learned how to use it.

Quebecor America Inc.'s president and CEO John T. Collins has found a way to guarantee that the vendor's trainer, as well as his own managers and operators, work quickly to get the new machines on-line and the employees completely trained to run them. He withholds full payment until his operators confirm that they are 100% ready to go.

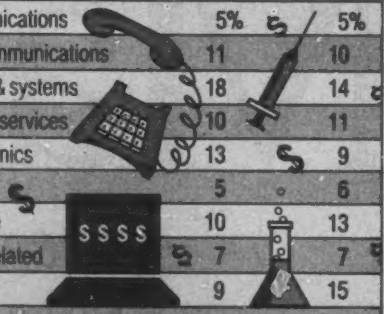
In addition to ensuring that the trainer works fast and well, the Needham, Mass., printing company's strategy ensures that employees take responsibility for fully understanding the equipment they'll be expected to make productive.

"It's as much psychological motivation as it is training," Collins says. "There's pride on the part of the employees when they tell their managers that they're ready to go. Consequently, they're much more motivated to do the job well." ☐

VENTURE CAPITAL:

WHERE'S THE MONEY GOING?

Industry	% of 1986 funds invested in industry	% of 1987 funds invested
Commercial communications	5%	5%
Telephone & data communications	11	10
Computer hardware & systems	18	14
Computer software & services	10	11
Noncomputer electronics	13	9
Biotechnology	5	6
Medical & health care	10	13
Energy & industrial related	7	7
Consumer related	9	15



Consumer-related businesses and the medical and health-care field were the main beneficiaries of increased venture capital interest. Computer hardware and systems and noncomputer electronics were the biggest losers.

Source: Venture Economics Yearbook, Venture Economics Inc., 1988

MARKETING

IF THEY CAN'T FIND IT, THEY CAN'T BUY IT

Effective distribution is tough for any new consumer-product company. So when Elizabeth Andrews, CEO of The Baby Bag Co., in Cumberland, Maine, began selling her innovative infant outerwear, she made sure buyers could find *her* even if they couldn't find a store that carried her goods. She stitched her new company's address and phone number right on every Baby Bag's label.

It seems to have worked. Though Baby Bag had difficulty winning shelf space from retailers, potential customers who saw the products being used at the grocery store or on the street were often intrigued enough to ask about them. Once they had the number, they could call Andrews to place an order or learn where the company's items were available for sale.

"Later, when Baby Bag became better known, retailers objected to the number because they thought it would take business away from them," Andrews says. Now that distribution is good, each Baby Bag has the company's address but not its phone number.

"We still get plenty of calls from customers in rural regions who are serious enough about wanting one that they dial information to get the number. And the 800 retailers love it because they get referrals." ☐

QUOTE OF THE MONTH

> *'When my employees make mistakes trying to improve something, I give them a round of applause. No mistakes mean no new products. If they ever become afraid to make one, my company is doomed.'*
>
> *—Jim Read, president and owner of The Read Corp., a Middleboro, Mass., construction-equipment manufacturer*

TECHNOLOGY

A COMPUTER IN EVERY HOME

If your employees use computers off the job, they'll probably use them better at work. Walter Kisling, CEO of Multiplex Co., a St. Louis manufacturer of refrigerated drink dispensers, offers his staffers financing on their home computers—without interest and at a substantial savings.

The deal, though a valuable benefit for employees and their families, costs Multiplex little. When Kisling buys equipment for Multiplex's office, he passes the bulk discount along to employees. They pay just 10% down and cover the balance with monthly installments deducted from their paychecks. They pay no interest. The only cost to Multiplex is the finance charge on the money it fronts for the machines. Of the company's 40-odd office workers, 15 have already made purchases.

Kisling is convinced that the program not only improves technical skills inside the company, but also boosts employee morale. ☐

CHARTS: CYNTHIA DAVIS

HANDS ON

INNOVATION

WRITE IT DOWN

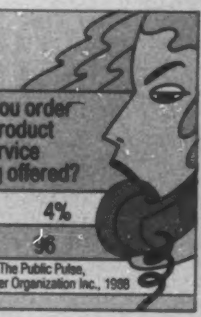
To be sure his company won't lose the ideas its employees come up with, William Donahoo, CEO of Clinch River Corp., provides every worker with a special pocket notebook for recording suggestions.

Donahoo was overwhelmed by suggestions when his company bought a Harriman, Tenn., paperboard plant and rehired laid-off workers. So he passed out three-by-five-inch notebooks marked, "Good Ideas for Clinch River."

Each week management lists each suggestion, the employee who made it, and its status. "In eight weeks, we got more than 100 ideas," Donahoo says. Nearly half of them are already being implemented. ☐

TELEMARKETING:

A CONSUMER'S VIEW



What did you do the last time you received a telephone sales call?	
Listened all the way through	32%
Cut the conversation short	41
Just hung up	26
Don't remember	1

Generally, what do you think of those calls?	
Find calls useful	3%
Prefer not to get these calls	83
It depends	[illegible]
Don't know	4

Did you order the product or service being offered?	
Yes	4%
No	96

Source: The Public Pulse, The Roper Organization Inc., 1988

OPERATIONS

SAFETY FIRST

You can make your manufacturing operation safer by making careful procedures a constant topic for discussion. So says Gordon Lankton, who has transformed the safety performance of his plastic injection-molding factory from substandard to award winning. At every Nypro Inc. meeting—whether held by the board of directors or the warehouse shipping crew—the first topic is always safety.

The issues covered range from how to drive a forklift and stack pallets properly to the development of a boot that won't slip on the clean-room floor. When an accident occurs, it is discussed in detail. Even the annual banquet begins with a year-to-year comparison of time lost due to job-related accidents.

Today the Clinton, Mass., company's annual accident rate hovers between 1 and 2 per 100 employees—which was good enough for an award from the National Safety Council. And healthier employees have contributed to a healthier bottom line. Nypro's workers' compensation bill has been cut from a peak of almost $500,000 per year to just $100,000. ☐

COMPENSATION

INSTANT GRATIFICATION

When handing out bonuses for extra or exemplary effort, it may be timing, not quantity, that matters most. William T. Quinn Jr., whose W. T. Quinn Inc. ranked #128 on the 1987 INC. 500 list of the fastest-growing companies in America, has found that his motivational dollars go further if he hands them out on the spot, just when the work load "gets really crazy." Employees at the Somerset, N.J., publishing company don't get a chance to doubt whether the boss is grateful for their extra effort. And morale is buttressed right at the moment when employees are most stressed.

"The dollar amount of the bonus," Quinn says, "takes a backseat to timing." He hands out what he calls Quinn Cash, mock $50 bills with his picture on the front and a note that reads, "Redeem this with an expense voucher for $50 worth of entertainment." Why require that the money be spent on fun? "I want my employees to go out and have a good time," Quinn says. "It helps relieve job stress—saving up bonuses for a television set wouldn't do that." ☐

FIGHTING DRUGS IN THE WORKPLACE

Testing: % of managers who think drug testing should be legal for use:	
As a preemployment requirement	81%
As a preemployment requirement for sensitive jobs	94%
On a random basis for all workers	53%

What to do: According to managers, employees using drugs at work should be:	Yes	No	Don't know
Dismissed	59%	28%	13%
Given counseling	95	4	2
Prosecuted	30	39	30

A survey of managers by the American Productivity & Quality Center found that slightly more than 40% of respondents thought there was a drug-abuse problem where they worked.

Source: American Productivity & Quality Center, 1988

HIRING

GET THE BAD NEWS, TOO

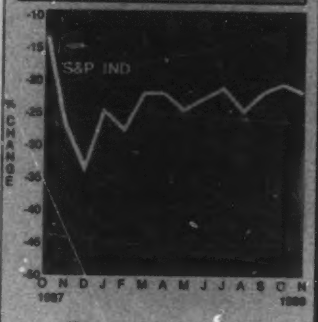
If you really want to get to know a job candidate, don't ask just for the usual references during an interview. Try asking for negative references—people with whom the applicant didn't get along.

Phil Thomas, chairman of the Thomas Group Inc., an Irving, Tex., consulting firm, has found that negative references are often more revealing than positive ones. While most job applicants will say initially they can't think of anyone who didn't like them, persistence will almost always result in some names—names that the surprised applicant probably hasn't had time to screen mentally. Those negative references and the potential hire's explanation of the problems invariably give Thomas a more balanced picture of the person's strengths and weaknesses. ☐

Reported by Teri Lammers, Martha E. Mangelsdorf, and Bruce G. Posner

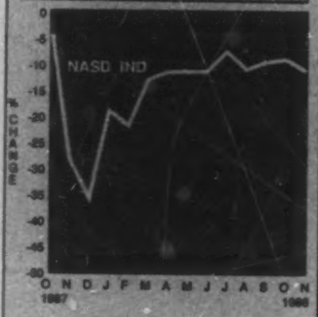
INVESTING IN GROWTH COMPANIES

INC. vs. CONSERVATIVE AVERAGES



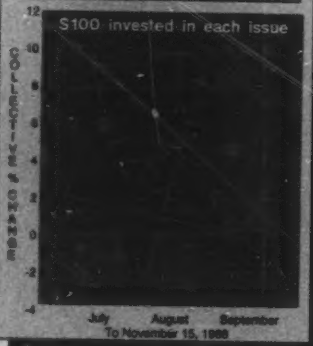
All averages start at 0 in October 1987.

INC. vs. SPECULATIVE AVERAGES



All averages start at 0 in October 1987.

IPOs IN THE AFTERMARKET



To November 15, 1988

INITIAL PUBLIC OFFERINGS: OCTOBER 1988

O-T-C sym.	Company	Business/product	Offering Size ($mil.)	Offering Price	First aftermarket bid	Underwriter
AMF[a]	ACM Managed Income	Closed-end fund	180.00	10.00	10	Merrill Lynch
RODS	American Steel & Wire	Makes steel rods & wires	25.27	9.00	9	Donaldson, Lufkin
ARIX	Arix	Designs & mfrs. multiprocessors	18.00	7.50	7⅝	Bear, Stearns
BIOH	Bioanalogics	Develops, mfrs., & sells computer prods.	4.05	3.00	4⅝	Paragon Capital
DCM[b]	Dreyfus CA Municipal Income	Closed-end investment co.	37.00	10.00	10	Paine Webber
DMF[b]	Dreyfus Municipal Income	Closed-end fund	160.00	10.00	10	Paine Webber
DNM[b]	Dreyfus NY Municipal Income	Closed-end fund	30.00	10.00	10	Paine Webber
FFPG	F.F.O. Financial Group	Savings & loan	6.50	5.75	6⅛	Williams Securities
GITN	Gitano Group	Designs & mfrs. jeans & sportswear	49.20	20.50	20⅛	Goldman, Sachs
HOOSU	HQ Office Supplies Warehouse	Operates supply stores	6.60	6.00[c]	7⅝	D. H. Blair
KTF[a]	Kemper Municipal Income	Closed-end fund	372.00	12.00	12	Smith Barney
KBAZ	Kitchen Bazaar	Sells specialized cookware	2.50	2.00	2⅝	A. M. Levine
LMRK	Landmark Graphics	Supplies computer exploration systs.	16.00	8.00	8¼	Shearson Lehman
LINZ	Lindsay Manufacturing	Designs & mfrs. irrigation systs.	12.00	10.00	10⅛	R. G. Dickinson
MPV[a]	MassMutual Participation Investors	Closed-end fund	85.00	10.00	10	Dean Witter
METC	Metcalf & Eddy Companies	Provides environmental svcs.	19.57	14.50	18¼	Drexel Burnham
MWGP	Midwest Grain Products	Processes wheat	15.40	14.00	14¾	William Blair
NTRK	Neoterik Health Technologies	Designs & mfrs. air-purifying systs.	4.86	6.75	6⅛	Investment Corp.
OFFI	Omni Films International	Designs & sells wide-screen cinema systs.	2.75	5.00	4¾	Anderson-Bryant
RTG[a]	Racal Telecom PLC	Provides vehicle leasing svcs.	129.40	20.85	31⅛	Goldman, Sachs
RI[b]	Resorts Income Investors	Real-estate investment trust	45.00	12.50	12⅝	Paine Webber
SLFX	Selfix	Mfrs. home-improvement prods.	7.00	7.00	7	Ladenburg, Thalmann
SIER	Sierra On-Line	Dvlps. & publ. entertainment software	15.60	9.00	9¼	Piper Jaffray
SOFS	Softsel Computer Products	Sells microcom. hardware & software	12.00	6.00	6	Alex Brown
STX[a]	Sterling Chemicals	Mfrs. petrochem.	136.00	16.00	16	Goldman, Sachs
TVF[a]	Templeton Value Fund	Closed-end fund	150.00	10.00	10	Shearson Lehman
VKC[b]	Van Kampen Merritt Cal.	Closed-end fund	28.00	10.00	10	Prudential-Bache
VSBC	VSB Bancorp	Bank	3.06	10.50	10⅝	Smith Barney
WAIN	Wainwright Bank & Trust	Bank	15.75	15.75	15⅛	Ladenburg, Thalmann
WAW[b]	Westair	Holding co. for United Express	15.20	9.50	9⅛	Drexel Burnham

Initial public offerings sold at $1 or less not included. First aftermarket bid is approximate. [a] trading on NYSE; [b] trading on AMEX; [c] units of 3 common + 3 warrants. Offering data source: *GOING PUBLIC: THE IPO Reporter*, a publication of The Dealer's Digest Inc., 150 Broadway, New York NY 10038.

CHARTS: IMAGEBUILDER DESIGN

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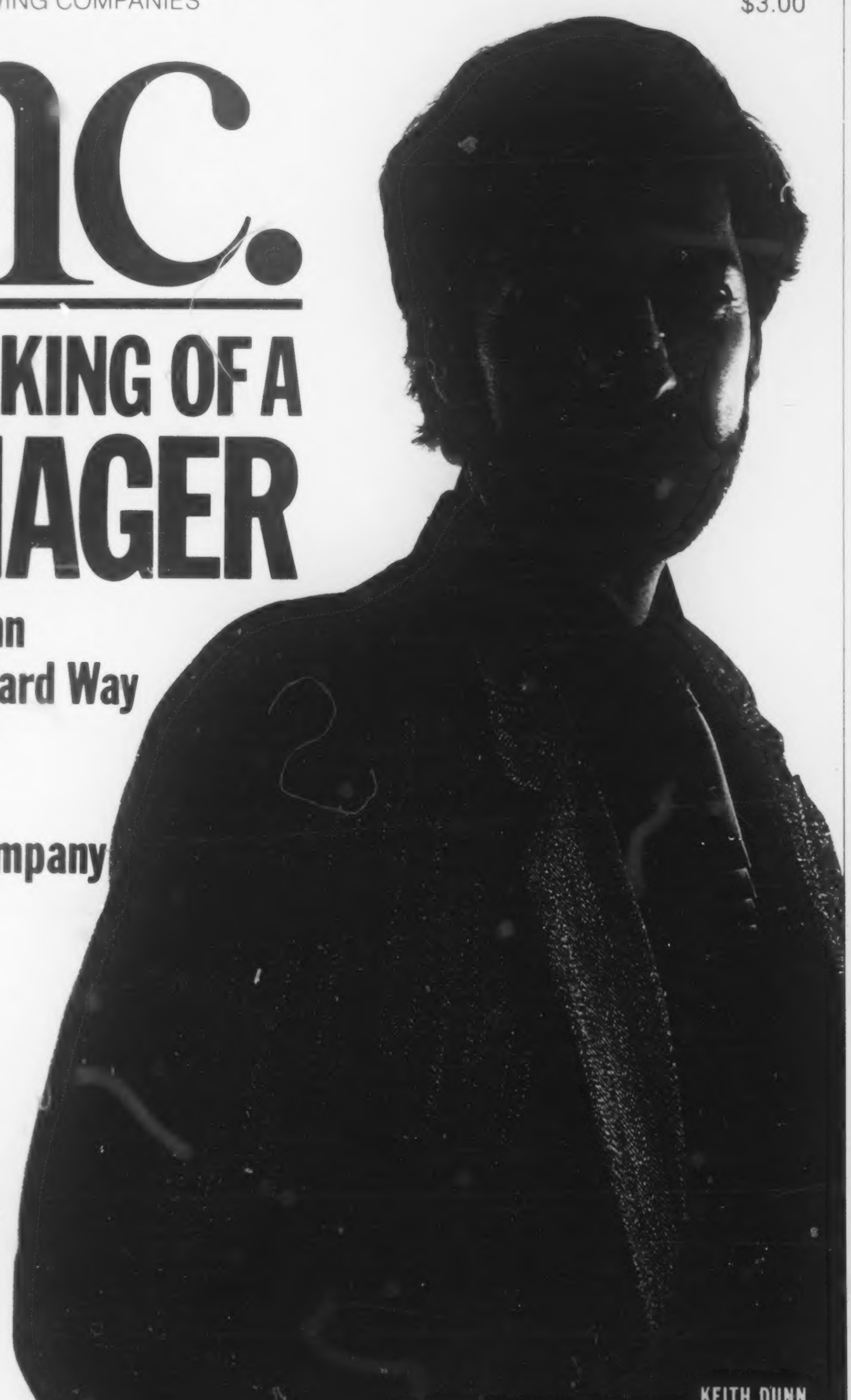

KEITH DUNN,
PRESIDENT OF McGUFFEY'S RESTAURANTS INC.

THE MAKING OF A MANAGER

How Keith Dunn Learned the Hard Way What It Takes to Build an 'Excellent' Company

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The Anatomy of a Start-up: INC.'s Monthly Case Study of a New Business

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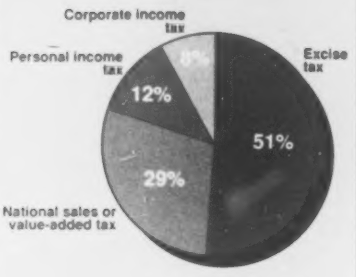
by
Herb Snitzer

INSIDER

READ OUR LIPS

How should President Bush reduce the federal budget deficit? Arthur Andersen & Co. posed a version of that question to some 21,000 owner-managers of companies in the $1-million to $120-million range. Predictably, a majority (55%) opted for cuts in existing programs, but a sizable 44% favored some combination of spending cuts and tax increases. And that's from people who supported Bush over Dukakis by 84% to 9% (with 7% undecided at the time of the survey). What if taxes *have* to be raised? A surprising 29% said they'd find a national sales or value-added tax least unpalatable.



The least unpalatable tax increases
How to generate additional revenue?

GOING STRAIGHT

At first glance, Southern Kitchens Inc. looks like most other growing companies. A maker of sandwiches for vending machines and cafeterias, it has trouble with cash flow, is in the process of going public, and has had to fight to survive against two much larger competitors. So much for the similarities. The major difference lies in the work force. Almost half the 35 jobs at the Minneapolis company are held by newly released convicts.

The unusual venture traces its origins to a meeting in 1983 between a prayer group of area businessmen and Austin Timms, an ex-felon with a local street ministry. Timms told the group that the toughest problem former offenders face is lack of work: since no one will hire them, they quickly return to crime. Some of the businessmen began working with Timms to form a company that would hire ex-convicts just out of prison. The group eventually decided to specialize in high-quality sandwiches—a market in which they hoped a small company could compete while creating unskilled jobs.

Crowley (l) with vp Timms
A work force of former offenders

In the past two years, about 30 ex-offenders have passed through Southern Kitchens. Most of them work for a few months at $4 to $5 per hour, establishing an employment history to show other employers. "We want this to be a bridge," explains cofounder Cy Laurent. "It is not intended to be a place to stay."

Company president Phillip Crowley, a food-service veteran, insists that his work force has been the least of his troubles. Convicts getting out of prison, he says, are at a point where they most want to change and are loyal to a company that gives them a chance. "We have fewer problems [with them] than with the general population." Of course, it helps that job candidates are screened by streetwise vice-president Timms, who makes sure they have a sincere desire to work.

Southern Kitchens' greatest challenge has been to operate profitably—something the founders consider crucial to their mission. Otherwise, they feel, the business community won't take the company seriously. "It was a struggle right from the start," says Laurent, who admits the group would have given up had this been an ordinary venture. The founders are glad they hung on, however: in fiscal 1988 sales climbed 250% to $1.5 million. And in fiscal 1989, Crowley says, the company is showing its first profit. Now, its founders hope the company's example may encourage other businesspeople to take hiring risks. "We feel these problems can be solved only if the private sector gets involved," says Crowley. *—M.E.M.*

FIRE STARTER

Some people just have a knack for coming up with great products. Take Paul Hait, the inventor-entrepreneur who turned a backyard hobby of smoking meat into Pemmican, the best-selling brand of beef jerky in the United States. His current product is a revolutionary cookout grill that can be fired up as high as 1,200° F., uses 75% less fuel than a standard kettle-type barbecue, and collapses into a lightweight package. Hait got the idea for it during a camping trip in the Sierras.

It seems he was having a problem with the rain, which kept dousing his camp fire. So he tried building his fire under a pyramid of stones. The structure's shape, he found, not only kept out the rain but made cooking more efficient. Seeing an opportunity, Hait went on to develop a line of cookers around the concept of heat reflectivity. The most popular model can grill a meal for six people with 9 briquettes (as opposed to 40 for the average barbecue). The leftover ashes fall into a foil liner for easy disposal. As for flexibility, the grill, known as the Pyromid L.A.S.A.R. Cooking System, can chuff along as a smoker at 150° F. or work as a searing stove at eight times that temperature.

JOHN HARDING

Inventor Hait and Pyromid grills
Turning hobbies into hot products

The hard part has been getting the product to market. After a number of false starts, Pyromid Inc., based in Redmond, Ore., is only now approaching the $1-million mark in sales. Nevertheless, Hait has big plans for the little grill. He thinks it could help solve Third World environmental problems caused by deforestation in the quest for cooking fuel. "This is a 'bridge' product," he says. "It would move people like the Chinese into the twenty-first century without breaking their bank accounts." *—Edward O. Welles*

INSIDER (continued)

HANDS ON

A Manager's Notebook

TRAINING

THE BUDDY SYSTEM

Most CEOs would say their companies don't train and orient new employees as well as they'd like—including, until last year, Sally Tassani. Her solution? The buddy system. Each new hire at Tassani Communications Inc., Tassani's Chicago advertising and public-relations firm, is paired with a veteran employee at a similar job level, usually from another department. The buddy answers questions, makes introductions, and assays the ins and outs of Tassani corporate culture.

"We were frustrated that we weren't providing adequate job training, especially when going through fast growth," says president and founder Tassani. "New people really need someone they can go to and say, 'This is what they said, but I don't understand.' When the buddy is a peer from another department, new employees aren't as inhibited about asking questions."

New employees usually avail themselves of their buddy for a couple of months. "It's a great way to get everybody in the company involved with training," Tassani adds. "And it doesn't take a lot of any one person's time or money." ☐

LESS TIME FOR BROWSING

How many consumers "really enjoy" browsing in these types of stores?

	1988	% decrease from 1983:
Clothing store	43%	–1%
Department store	43	–1
Bookstore	35	–1
Grocery store	30	–5
Gift shop	25	–4
Furniture store	24	–6
Hardware store	23	–6
Sporting goods store	23	–3
Audio/record/tape store	19	–2
Gourmet food shop	14	–3

Over the past five years, the proportion of consumers who say they like to browse has decreased for every one of 26 kinds of stores. In particular, women, college-educated and affluent consumers, and consumers on the East and West Coasts are generally much less likely to be interested in browsing now than they were in 1983.

Source: The Roper Organization's *The Public Pulse,* November 1988

INFORMATION

KEEPING UP, WITH NASA'S HELP

One result of the high-tech/information age is that competitively useful information of all kinds—about products, markets, companies, and technical developments—is available to the public. Many small-company managers, however, are finding the data hard to obtain.

Pasadena, Calif.-based Glass Instruments Inc., for instance, often needs to check on existing patents and current technical information, but none of its 16 employees are trained to use technical databases. Nor can the company afford to maintain a technical or publications library. So what does office manager Dorothy Harkness do? She calls NASA.

The Los Angeles office of the NASA Industrial Application Center (NIAC), a nonprofit program of the space agency, specializes in searching more than 400 databases of all kinds, particularly for small companies that don't use databases often enough to justify training their personnel.

The searches can be conducted while you're linked to NIAC by phone and computer, so you can direct the search and immediately download interesting information to your PC. On average, searches cost between $140 and $300 per topic, depending on the databases used. For more information, call NIAC at the University of Southern California, (213) 743-6132. ☐

QUOTE OF THE MONTH

> *'I decided to quit Ford and work for a small company to get out of the rat race. I found out there was another rat race.'*
>
> *—Harry Featherstone (who sounds happy when he says this), CEO of Will-Burt Co., in Orrville, Ohio*

MANAGING PEOPLE

EXPLAINING FINANCIALS

Sharing an income statement and balance sheet with the ranks can be a powerful tool for motivating performance, but not if employees don't understand them. So the financial statements at employee-owned Reflexite Corp., in New Britain, Conn., come complete with explanations for each line item.

The idea came from a discussion president and CEO Cecil Ursprung had with key managers. "One of my bright, capable managers said, 'I hope you publish something diffferent from what I got, because I don't know how to read the thing,' " Ursprung says. "I thought, we'd better do some educating when we hand this out."

The annotations, for such items as prepaid expenses ("This is the value of expenses paid in advance, such as insurance premiums"), appear in fine print in the right-hand margin, close to the appropriate number and with a line connecting the two. ☐

CHARTS: CYNTHIA DAVIS

HANDS ON

OPERATIONS

VOLUNTARY LAYOFFS

Unavoidable slow-season layoffs can wreck morale—and productivity—at even the best-managed companies. Is there a bloodless way to expand and contract your work force as the business cycle dictates? The folks at Nypro Inc. think so.

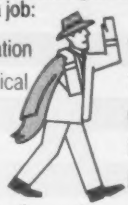
Before assigning enough pink slips to handle the (presumably temporary) lean times, CEO Gordon Lankton asks employees whether any of them will volunteer for time off. For the past 15 years, they have. Older workers, employees with young families, or those for whom Nypro provides a second income are the most frequent volunteers. "They go out and get refreshed and come back more enthused than ever—and they almost always *do* come back," Lankton says. "These days, people like flexibility. It helps them and it helps the company."

Lankton points out that the policy is more expensive than ordinary layoffs. Though payroll gets cut, related costs don't. Voluntary leave-takers at the Clinton, Mass.-based injection-molding company remain eligible for benefits and profit sharing. ☐

WHICH BENEFITS AFFECT

CAREER CHOICES?

Percent of execs who consider benefit when deciding to keep or accept a job:



Hospitalization	74%
Major medical	71
Vacation	67
Sick days	55
Holidays	54
Traditional retirement	45
Long-term disability	43
Short-term disability	35
Group life insurance	34
Retiree healthcare	30

High-quality benefits can be the difference between keeping or losing a top company executive.

Source: National Institute of Business Management Inc., 1988

MARKETING

FREE-TRIAL FEEDBACK

Looking for another source of cheap and on-target market research? Donald L. Beaver Jr., founder and chairman of New Pig Corp., has found one: disgruntled not-quite customers. He calls them not-quite because though they use his products, they decide not to pay for them.

Here's how Beaver's plan works. To sell prospects on the Altoona, Pa., company's "pigs"—devices that absorb leaks around manufacturing machinery—he offers 20-day, no-risk trials. If you don't like the pigs, you can ignore the bill. When a bill *is* ignored, Beaver calls to find out why. The result? Ideas for new or improved products. One customer, for instance, said he wasn't paying because his pig reacted with the nitric-acid leaks it was absorbing. Beaver explained that the product hadn't been designed to deal with hazardous fluids—and set about developing one that could. Today, he says, the resulting hazardous-materials pig is a $2-million-a-year product.

The key to the strategy, Beaver says, is the ignore-the-bill offer. Without it, dissatisfied customers would pay up the first time but never order again, and their immediate feedback would be lost. ☐

BENEFITS

MAKING RETIREMENT SAVINGS ADD UP

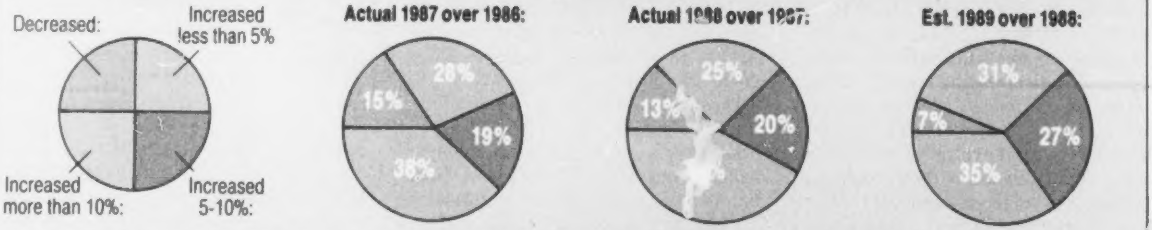
Impressing on employees the value of retirement benefits can seem like one of the all-time great managerial challenges. But not if you present the benefits as simply as you would a savings account, discovered Engineering Design & Sales (EDS) CEO and president Roy G. Gignac.

The Danville, Va., electronic design and manufacturing company now issues each eligible employee an ersatz savings passbook for recording profit-sharing vitals: the company's contributions and interest earned. "Most companies hand out certificates at the end of the year telling employees how much they've socked away," Gignac says. "It gets stuffed in a drawer and forgotten. I wanted my profit sharing to have a more immediate effect on my employees—to be a reason to stay with my company. And I wanted to make it easy for them to understand how much we're doing for them."

On the first Tuesday of every month, the EDS accounting department makes the appropriate entries, based on the previous month's profits. "Employees can see their hard work pay off on a monthly basis, which is much more rewarding than yearly. And they take a more active interest in the plan." ☐

SMALL BUSINESS SALES GROWTH

Proportion of businesses whose sales grew, in % change over previous year



Small business owners remain optimistic for 1989: more than 60% predict at least a 5% increase in sales; 35% predict an increase greater than 10%.

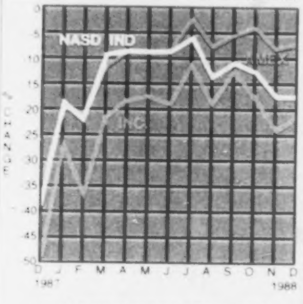
Source: Arthur Andersen & Co. Small Business Survey, 1988

JOHN SIZING

Reported by Teri Lammers and Martha E. Mangelsdorf

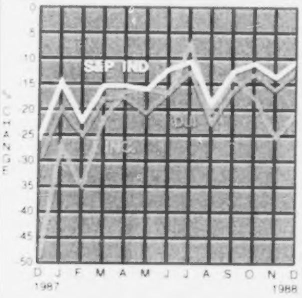
INVESTING IN GROWTH COMPANIES

INC. vs. CONSERVATIVE AVERAGES



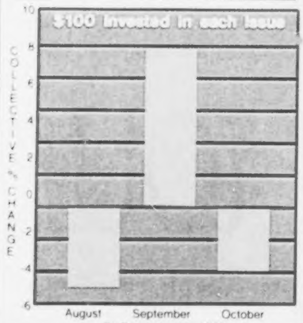
All averages start at 0 in October 1987

INC. vs. SPECULATIVE AVERAGES



All averages start at 0 in October 1987

IPOs IN THE AFTERMARKET



To December 15, 1988

INITIAL PUBLIC OFFERINGS: NOVEMBER 1988

O-T-C sym.	Company	Business/product	Offering Size ($mil.)	Offering Price	First aftermarket bid	Underwriter
AMF[a]	**ACM Managed Income Fund**	Closed-end fund	180.00	10.00	10	Merrill Lynch
BEC[a]	**Beckman Instruments**	Mfrs. scientific chemical instruments	85.50	19.00[c]	18⅞	Goldman, Sachs
BTT[a]	**Blackstone Target**	Closed-end fund	830.00	10.00	10	Prudential-Bache
BRCCU	**Bristol Research**	Designs & mkts. computer prods.	4.00	4.00[d]	5¾	F. N. Wolf
CBPA	**Community Bancorp**	Savings & loan holding co.	2.96	6.50[e]	6½	Williams Securities
DVGLU	**Dimensional Vision Group Ltd.**	Develops & mkts. media materials	4.20	6.00[f]	7¼	D. H. Blair
GGNS	**Genus**	Mfrs. integrated circuit equip.	10.00	5.00	5	Alex. Brown
HWY[a]	**Huntway Partners L.P.**	Refines petroleum prods.	56.06	11.50	11½	Goldman, Sachs
LERYU	**Leroy Pharmacies**	Operates chain of drugstores	3.50	5.00[g]	5	Whale Securities
LOGC	**Logic Devices**	Designs & mfrs. integrated - circuits	6.00	6.00	6	H. J. Meyers
LSF[a]	**Lomas Mortgage Securities Fund**	Closed-end fund	300.00	12.00	12	Merrill Lynch
MTBS	**Metro Bancshares**	Savings & loan holding co.	4.25	8.75[h]	8¾	Merrill Lynch
MHF[a]	**Municipal High Income Fund**	Closed-end fund	150.00	10.00	10	Shearson Lehman
OGT[a]	**Oppenheimer Special**	Closed-end fund	55.00	10.00	10	Paine Webber
PHY[a]	**Prospect Street High Income Portfolio**	Closed-end fund	120.00	10.00	10	Drexel Burnham
TGG[a]	**Templeton Global Governments Income Trust**	Closed-end fund	175.00	10.00	10	Dean Witter
PHF[b]	**USF&G Pacholder Fund**	Closed-end fund	35.77	20.00	19⅞	Alex. Brown

Initial public offerings sold at $1 or less not included. First aftermarket bid is approximate. [a] trading on NYSE. [b] trading on AMEX. [c] 900,000 shares offered overseas. [d] units of 2 common + 1 warrant. [e] 1.3 million shares offered via subscription offering. [f] units of 3 common + 3 warrants. [g] units of 1 common + 1 warrant. [h] 1,864,131 shares offered via subscription offering. Offering data source: *GOING PUBLIC: THE IPO Reporter*, a publication of The Dealer's Digest Inc., 150 Broadway, New York NY 10038.

[illegible] Having made it into 1989 without financial catastrophe, it's tempting to believe that the Crash of '87 was a statistical anomoly, as if a bunch of traders coincidentally woke up on the wrong side of the bed on October 19 and decided to sell simply for cathartic effect. Because an economic downturn showed no signs of developing, recession-sensitive industries such as the technology sector, which passed a restive fall, rallied back to P/E respectability. Indeed, by January the market's sentiment had at last crept into postcrash positive ground.

"Sentiment" is a concept begat by contrarian analysts to describe the balance between bearish and bullish expectations, the idea being that the more they tilt to one side, the more the market is apt to go the other way. So far, the only element missing from a business-as-usual recovery from Meltdown Monday is that the public has yet to have its faith in equities restored. Well, you can smell it coming: just as sentiment reaches a bullish crescendo, that's probably when the public will finally join in unafraid.

Beware the Ides of March.

—*Robert A. Mamis*

CHARTS: IMAGEBUILDER DESIGN

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THE MAGAZINE FOR
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Park Forest
Univ. Pk.

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THE FASTEST-GROWING CITIES IN AMERICA

INC.'s ANNUAL RANKING OF THE METROPOLITAN ECONOMIES: PAGE 90

Company Start-ups • Job Growth • Fast-Growth Companies

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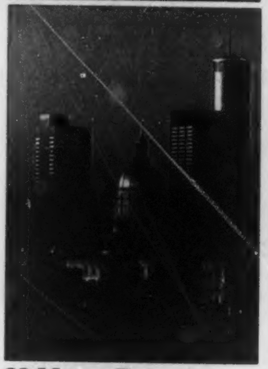

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Keeper of the flame

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Dragged down by a bad acquisition

COVER ILLUSTRATION
by
Imagebuilder Design

MAP FROM THE ROAD ATLAS © 1989 BY RAND MCNALLY R.L.89-S-12

METRO REPORT

HOT SPOTS

In this year's ranking of metropolitan economies, growth is in the 'edge cities'

This year's Metro Report reflects the old saw that the more things change, the more they stay the same. Those areas at the top of the list—#1 Manchester-Nashua, N.H., #2 Orlando, and #3 West Palm Beach, Fla.—are becoming "usual suspects" in our annual surveys of fastest-growing regions. And at the bottom of the list, past losers reappear—such hard-hit Oil Patch towns as #184 Oklahoma City, #189 Shreveport, La., and #191 Odessa-Midland, Tex.

There are some patterns among the big gainers. One amusing note is the resurgence of gambling towns across the country. The three gaming cities all shot sevens this year—#31 Reno, Nev., up from #73, #46 Atlantic City, N.J., up from #118, and Las Vegas, which rose from a respectable #27 to this year's #6.

But Las Vegas's rise, in particular, stems from something far more important than the appeal of easy money. As part of a greater trend, the U.S. economy is moving to places where, only a few years ago, cattle grazed or cactus grew. From New England to southern California, entrepreneurs are clustering in suburban subdivisions and satellite cities rather than in the teeming traditional downtowns.

"America is going through the biggest change in urban life in more than 100 years," notes Joel Garreau, a senior writer on urban affairs at *The Washington Post.* "Instead of simply living out in the suburbs and working in the city, where he has to deal with crime and drugs, the entrepreneur now goes out and builds his business where he lives."

With its relatively small center city and its numerous, expanding suburban clusters, Los Angeles (#59) epitomizes Garreau's concept of the "edge city." It challenges megalopolitan rivals New York City (#108) and Chicago (#119) with its diverse and vital entrepreneurial economy (see "I Love L.A.," page 96). More impressive still has been the growth in Los Angeles's numerous satellite towns, such as Anaheim (#8), Riverside-San Bernadino (#12), and Ventura (#27), all of which have become significant economic regions in their own right.

This edge-city pattern is not restricted to southern California, however. Some of the fastest-growing major metropolitan areas on our 1989 list—Orlando (#2), Washington, D.C. (#5), and Atlanta (#7)—mirror the Los Angeles pattern. Much of their new growth takes place in suburban, industrial, and business districts. In the booming Washington area, for instance, once sleepy Tysons, Va., has grown into a city with the largest downtown in the state, and nearby Rockville-Gaithersburg, Md., now boasts more office space than downtown Baltimore. These emerging cities rely on the automobile, and their populations swell during the day with numerous commuters.

Top cities on our list that have developed as satellites of a

BY JOEL KOTKIN &
SARA BAER-SINNOTT

METRO RANKING

1. **Manchester-Nashua, NH** (2)
2. **Orlando, FL** (3)
3. **West Palm Beach, FL** (NR)
4. **Raleigh-Durham, NC** (6)
5. **Washington, DC** (8)
6. **Las Vegas, NV** (27)
7. **Atlanta, GA** (5)
8. **Anaheim, CA** (NR)
9. **Portsmouth, NH** (13)
10. **Phoenix, AZ** (4)
11. **San Diego, CA** (10)
12. **Riverside-San Bernadino, CA** (NR)
13. **San Jose, CA** (NR)
14. **Ft. Myers, FL** (17)
15. **Nashville, TN** (11)
16. **Jacksonville, FL** (22)
17. **Austin, TX** (1)
18. **Norfolk-Portsmouth, VA** (20)
19. **Charleston, SC** (19)
20. **Columbia, SC** (45)
21. **Ft. Pierce, FL** (NR)
22. **Huntsville, AL** (7)
23. **Panama City-Ft. Walton Beach, FL** (NR)
24. **Lexington, KY** (47)
25. **Tucson, AZ** (12)
26. **Dallas-Ft. Worth, TX** (9)
27. **Ventura, CA** (NR)
28. **Burlington-Montpelier, VT** (NR)
29. **Charlotte, NC** (32)
30. **Richmond, VA** (25)
31. **Reno, NV** (73)
32. **Indianapolis, IN** (35)
33. **Tampa-St. Petersburg, FL** (15)
34. **Sarasota, FL** (29)
35. **Baltimore, MD** (24)
36. **Wilmington-Jacksonville, NC** (NR)
37. **Columbus, OH** (31)
38. **Gainesville, FL** (NR)
39. **Portland, ME** (37)
40. **El Paso, TX** (26)
41. **Greensboro-Winston Salem, NC** (28)
42. **Wilmington, DE** (36)
43. **Seattle, WA** (40)
44. **South Bend, IN** (18)
45. **Ft. Wayne, IN** (38)
46. **Atlantic City, NJ** (118)
47. **Montgomery, AL** (81)
48. **Pensacola, FL** (16)
49. **Sacramento, CA** (46)
50. **Minneapolis-St. Paul, MN** (34)
51. **Lancaster, PA** (57)
52. **Ft. Smith-Fayetteville, AR** (39)
53. **Boston, MA** (23)
54. **Birmingham, AL** (64)
55. **San Antonio, TX** (21)
56. **Melbourne-Titusville, FL** (48)
57. **Memphis, TN** (30)
58. **Grand Rapids, MI** (51)
59. **Los Angeles, CA** (33)
60. **Albuquerque, NM** (14)
61. **Tallahassee, FL** (42)
62. **Knoxville, TN** (65)
63. **Miami, FL** (41)
64. **Worcester, MA** (55)
65. **Savannah, GA** (53)
66. **Bridgeport-Stamford, CT** (58)
67. **Stockton-Modesto, CA** (80)
68. **Wichita, KS** (102)
69. **Metro New York (NJ), NJ** (NR)
70. **Monterrey, CA** (101)
71. **Louisville, KY** (100)
72. **Lincoln, NB** (69)
73. **Jackson, MS** (70)
74. **Philadelphia, PA** (49)
75. **Madison, WI** (82)
76. **Hickory, NC** (NR)
77. **Springfield, MO** (93)
78. **York, PA** (104)
79. **Salt Lake City, UT** (56)
80. **Daytona Beach, FL** (59)
81. **Harrisburg, PA** (113)
82. **New Haven, CT** (68)
83. **Rochester, NY** (90)
84. **Greenville-Spartanburg, SC** (74)
85. **Hartford, CT** (96)
86. **Kansas City, MO** (54)
87. **Lakeland-Winter Haven, FL** (108)
88. **San Francisco-Oakland, CA** (44)
89. **Detroit, MI** (50)
90. **Cincinnati, OH** (61)

#1. MANCHESTER-NASHUA

METRO LEADERS

Company Start-ups:
West Palm Beach, Fla.

Job Growth:
Atlantic City, N.J.

Fast-Growth Companies:
Manchester-Nashua, N.H.

91. **Albany, NY** (66)
92. **Sioux Falls, SD** (NR)
93. **Honolulu, HI** (83)
94. **Denver-Boulder, CO** (52)
95. **Boise, ID** (85)
96. **Chattanooga, TN** (105)
97. **Augusta, GA** (62)
98. **Syracuse, NY** (112)
99. **Toledo, OH** (75)
100. **Green Bay, WI** (111)
101. **Mobile, AL** (114)
102. **Portland, OR** (87)
103. **Omaha, NB** (76)
104. **Roanoke, VA** (97)
105. **Macon, GA** (60)
106. **Long Island, NY** (NR)
107. **Dayton, OH** (71)
108. **New York, NY** (79)
109. **Santa Barbara, CA** (43)
110. **Colorado Springs, CO** (63)
111. **St. Louis, MO** (84)
112. **Poughkeepsie, NY** (NR)
113. **Lansing, MI** (67)
114. **Metro New York (NY), NY** (NR)
115. **Fargo, ND** (NR)
116. **Binghamton, NY** (115)
117. **Asheville, NC** (NR)
118. **Providence, RI** (103)
119. **Chicago, IL** (95)
120. **Eugene, OR** (121)
121. **Milwaukee, WI** (109)
122. **Baton Rouge, LA** (88)
123. **Waco-Killeen, TX** (99)
124. **Des Moines, IA** (130)
125. **Erie, PA** (138)
126. **Houston-Galveston, TX** (92)
127. **Biloxi, MS** (NR)
128. **Rockford, IL** (98)
129. **Fresno, CA** (120)
130. **Battle Creek-Kalamazoo, MI** (110)
131. **Youngstown, OH** (124)
132. **Cedar Rapids, IA** (117)
133. **New London, CT** (91)
134. **Cleveland-Akron, OH** (106)
135. **Lima, OH** (NR)
136. **Bloomington-Champaign, IL** (119)
137. **Little Rock, AR** (72)
138. **Johnson City-Kingsport, TN** (141)
139. **Pittsburgh, PA** (131)
140. **Buffalo, NY** (127)
141. **Fayetteville, NC** (NR)
142. **Anniston-Gadsden, AL** (NR)
143. **Topeka-Lawrence, KS** (78)
144. **Springfield, MA** (116)
145. **Pittsfield, MA** (122)
146. **Williamsport-State College, PA** (NR)
147. **Salem, OR** (NR)
148. **Allentown, PA** (134)
149. **Spokane, WA** (107)
150. **New Bedford-Fall River, MA** (94)
151. **Bakersfield, CA** (123)
152. **Tacoma, WA** (125)
153. **Reading, PA** (149)
154. **Flint, MI** (86)
155. **Scranton-Wilkes Barre, PA** (135)
156. **Visalia, CA** (NR)
157. **Ft. Collins, CO** (NR)
158. **Columbus, GA** (140)
159. **Evansville, IN** (128)
160. **Johnstown-Altoona, PA** (126)
161. **Huntington, WV** (148)
162. **Terre Haute, IN** (NR)
163. **Canton, OH** (152)
164. **Saginaw-Bay City, MI** (89)
165. **Rochester, MN** (NR)
166. **Springfield, IL** (146)
167. **Charleston, WV** (147)
168. **Brownsville, TX** (132)
169. **Tulsa, OK** (133)
170. **Longview, TX** (136)
171. **Lafayette, IN** (NR)
172. **Peoria, IL** (153)
173. **Utica-Rome, NY** (145)
174. **Anchorage, AK** (NR)
175. **New Orleans, LA** (137)
176. **Wichita Falls, TX** (NR)
177. **Davenport-Rock Island, IL** (150)
178. **Monroe, LA** (NR)
179. **Duluth, MN** (154)
180. **Anderson-Muncie, IN** (NR)
181. **Lubbock, TX** (144)
182. **Lynchburg, VA** (NR)
183. **Beaumont, TX** (142)
184. **Oklahoma City, OK** (151)
185. **Corpus Christi, TX** (129)
186. **Yakima-Richland, WA** (NR)
187. **Amarillo, TX** (143)
188. **Lafayette, LA** (155)
189. **Shreveport, LA** (139)
190. **Wheeling, WV** (NR)
191. **Odessa-Midland, TX** (156)

The U.S. economy is moving to places where, only a few years ago, cattle grazed or cactus grew. From New England to southern California, entrepreneurs are clustering in suburban subdivisions and satellite cities rather than in the teeming traditional downtowns.

#10. PHOENIX

#5. WASHINGTON, D. C.

#3. WEST PALM BEACH

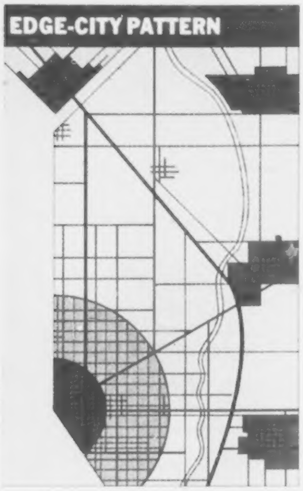
PHOTOGRAPHS: FROM LEFT
ALEX S. MACLEAN/LANDSLIDES
PAUL DEGRUCCIO/UNIPHOTO
THOMAS JASON/IN STOCK
STACY PICK/UNIPHOTO

larger dynamic region include Manchester-Nashua and Portsmouth (#9), N.H. They are essentially edge cities of Boston (#53), itself a vigorous metropolitan area.

These edge cities tend to be located close to excellent highways and major airports, facilities as important today as railroad hubs were to the core cities of the last century. Good schools, low crime rates, the availability of housing, and business-oriented local governments also contribute to the suburban appeal.

Another, perhaps less obvious, lure may lie in the basically unsettled nature of life on the suburban edge. "It's a place where the whole culture is 'Fix it first and deal with the consequences later,'" points out Garreau. "The people who like the status quo stay downtown where the old elites are. People who are out there redefining themselves, like entrepreneurs, are attracted to places that are new, where things are more flexible."

EDGE-CITY PATTERN



Entrepreneurs are choosing edge cities for their start-ups.

HOW THE CITIES WERE RANKED Our third annual report on metropolitan areas is based on three factors: job generation, rate of significant new business start-ups, and the percentage of young companies enjoying high growth rates. For each factor, each metropolitan area was assigned a score from 1 to 33.33, reflecting its relative standing among cities in the United States. The overall rank of a city was based on the sum of the three scores.

Metropolitan areas were defined as counties or groups of counties closely related by commuting patterns. In general, a densely settled suburban community was grouped with an urban county if 15% of its residents reported working in the city. This year, to make our report more comprehensive, we have added 35 newly defined metropolitan areas. These additions should be taken into account when comparing a city's 1988 rank with the 1989 rank.

The rate of significant business births was derived by dividing the total number of business enterprises in an area by the number founded since January 1984 that had 10 or more employees by July 1988. The number of high-growth companies was figured as a percentage of all companies founded between January 1980 and January 1984. For each company, an index was calculated by multiplying its absolute growth in employment between January 1984 and July 1988 by its percentage of employee growth during the same period. Companies with an index of 20 or higher were classified as high growth. Employment figures measure the change in private nonagricultural and civilian public-sector employment between January 1984 and July 1988.

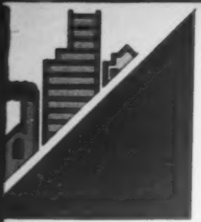
Data on companies were compiled by Cognetics Inc., a Cambridge, Mass.-based consulting firm. Job data were supplied by the U.S. Bureau of Labor Statistics and Woods & Poole Economics Inc., a research firm in Washington, D.C.

The ranking was prepared under the direction of special projects editor Sara Baer-Sinnott. For a complete listing of all rankings or for information on reprints, please call (800) 372-0018.

METRO RANKING/THE TOP 50

1989 Rank/Area	Growth In Jobs	Business Birthrate	% of Fast-Growing Companies
1. **Manchester-Nashua, NH**	27.1%	3.31%	7.01%
2. **Orlando, FL**	35.2	4.41	4.13
3. **West Palm Beach, FL**	27.2	4.49	3.93
4. **Raleigh-Durham, NC**	24.1	3.82	4.98
5. **Washington, DC**	25.7	3.58	5.08
6. **Las Vegas, NV**	30.3	4.32	3.32
7. **Atlanta, GA**	22.6	4.03	4.53
8. **Anaheim, CA**	22.2	4.21	4.1
9. **Portsmouth-Dover, NH**	32.4	2.96	5.07
10. **Phoenix, AZ**	24.5	3.70	4.46
11. **San Diego, CA**	27.6	3.62	4.25
12. **Riverside-San Bernadino, CA**	35.1	3.48	3.31
13. **San Jose, CA**	7.6	3.52	5.75
14. **Ft. Myers, FL**	34.1	3.43	2.97
15. **Nashville, TN**	18.4	3.63	4.18
16. **Jacksonville, FL**	26.4	3.36	3.66
17. **Austin, TX**	11.2	4.34	3.51
18. **Norfolk-Portsmouth, VA**	25.4	3.29	3.68
19. **Charleston, SC**	21.4	3.90	2.91
20. **Columbia, SC**	19.2	3.29	4.17
21. **Ft. Pierce, FL**	32.7	3.19	2.84
22. **Huntsville, AL**	28.0	3.61	2.59
23. **Panama City-Ft. Walton Beach, FL**	28.0	3.44	2.71
24. **Lexington, KY**	17.7	3.39	3.57
25. **Tucson, AZ**	15.9	3.35	3.80
26. **Dallas-Ft. Worth, TX**	13.1	3.80	3.30
27. **Ventura, CA**	24.4	3.08	3.32
28. **Burlington-Montpelier, VT**	23.1	2.78	3.94
29. **Charlotte, NC**	23.0	2.91	3.70
30. **Richmond, VA**	21.0	2.68	4.25
31. **Reno, NV**	25.8	2.89	3.36
32. **Indianapolis, IN**	22.2	2.67	4.10
33. **Tampa-St. Petersburg, FL**	20.8	3.21	3.30
34. **Sarasota, FL**	26.8	2.92	3.10
35. **Baltimore, MD**	14.1	3.05	4.14
36. **Wilmington-Jacksonville, NC**	21.9	3.20	3.01
37. **Columbus, OH**	22.5	2.62	3.92
38. **Gainesville, FL**	29.3	2.49	3.37
39. **Portland, ME**	23.0	2.37	4.24
40. **El Paso, TX**	11.2	3.71	3.15
41. **Greensboro-Winston Salem, NC**	15.4	2.72	4.35
42. **Wilmington, DE**	21.8	2.48	4.01
43. **Seattle, WA**	25.9	2.45	3.61
44. **South Bend, IN**	19.3	2.57	4.01
45. **Ft. Wayne, IN**	30.7	2.14	3.42
46. **Atlantic City, NJ**	44.5	1.86	2.38
47. **Montgomery, AL**	16.5	3.04	3.27
48. **Pensacola, FL**	16.9	2.74	3.72
49. **Sacramento, CA**	28.8	2.44	2.96
50. **Minneapolis-St. Paul, MN**	17.7	2.44	4.11

Among the top metropolitan areas on our list, growth in jobs is related to the number of young, fast-growing companies.

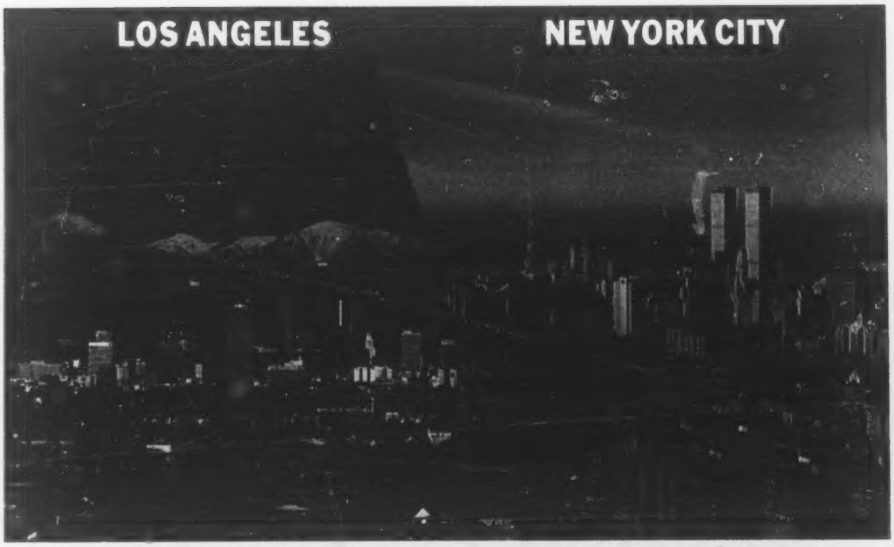


METRO REPORT

I LOVE L.A.

Why Los Angeles is fast replacing New York City as the economic capital of America

BY JOEL KOTKIN



While New York has become more dependent on Wall Street and the Fortune *500, Los Angeles thrives on a mix of fast-growing companies, a high rate of new business formations, and new jobs.*

PHOTOGRAPHS: L.A., MARK STEPHENSON/WESTLIGHT

When New York City native Albert Boyars shipped out with the navy during World War II, his will specified that if Boyars were killed in action he'd be buried under the trolley tracks in Times Square. But today Boyars—like many involved in New York's small-business community—finds his company handicapped by conditions fostered by the very city he loves.

Beset by proposed rent increases that would total 350%, Boyars's company, Trans-Lux Corp., last January shut down its popular multiscreen show, The New York Experience, after 15 years of operation and more than 6 million customers. Boyars is now looking for another venue for the show. "We just can't do it here anymore," he says.

Boyars's case is not an exceptional one. Once the center of a vibrant and creative entrepreneurial community, New York's smaller companies are often squeezed out now as a handful of corporations, banks, insurance, and other financial-services companies govern the city's economy. As a result, New York—long the cultural and financial center of American life—is rapidly losing its primacy.

Across the country another city tells a radically different story. Los Angeles was long regarded as Tinseltown, a sprawling company town for the Hollywood fantasy factories. But in recent years Los Angeles has developed into a leading center for art, fashion, and advertising—industries once dominated by New York City.

This shift from New York to Los Angeles reflects what *Washington Post* senior writer Joel Garreau calls the "edge city" phenomenon: entrepreneurs looking to start companies in suburban settings as opposed to downtown centers. While New York has become ever more dependent on the fading powers of Wall Street and the *Fortune* 500, Los Angeles's economy thrives on a mix of small, fast-growing companies, a high rate of new business formations, and new jobs. And at a time when manufacturing activities are becoming a driving force for economic growth, southern California boasts the nation's largest and most vigorous industrial economy (see chart on page 99).

Propelled by the growth of trade with Asia and increased immigration, southern California is rapidly replacing New York as the new center for international commerce. The port of Los Angeles-Long Beach is now, in terms of the value of goods handled, the nation's largest. Los Angeles's downtown, once deteriorating, now bustles with new construction projects, many of them financed by Japanese and other foreign investors.

"New York's going to remain a great city, but 20 years down the road, things may change," believes Sam Ehrenhalt, commissioner for the New York region of the federal Bureau of Labor Statistics (BLS). "Los Angeles has the raw physical energy and, if they harness that, it will become the true world city."

Until the October 1987 stock-market crash, New York City's economy seemed buoyant even with its weakened small-busi-

CORNER TABS: RADIO MAYONNAISE

ness sector. But while small business accounted for nearly two-thirds of all new private-sector jobs nationwide between 1978 and 1986, entrepreneurial companies accounted for only about one-fifth of New York's new private-sector jobs from '78 to '87. Almost all of the city's growth came from its large financial firms and those service businesses, like law and consulting, that feed from the paper economy. "It was easy to become service oriented with all these service giants around," notes Lee Smith, an economic adviser to New York governor Mario Cuomo. "We had this transaction-based economy that helped keep the hotels filled, the printing firms busy, and the lawyers happy."

This success, Smith points out, conditioned New York's political leadership to regard lightly the slow decline of its small-business community. Big business was the future, and the city lavished tax abatements and other breaks on such giants as Chase Manhattan and NBC in order to keep them from leaving their high-rent Manhattan towers. City leaders looked the other way as soaring rents and energy costs strangled many smaller, nonfinancial companies, ranging from photography studios and ethnic restaurants to theater companies.

Perhaps the most severe damage took place in New York's once large industrial sector. For nearly a century the city was an energetic national center for smaller, specialized manufacturing concerns. Over the past decade alone, it has experienced a 30% drop in manufacturing employment, a reversal even more severe than that felt in the Rust Belt. From 1985 to '87, as the nation gained 243,000 new manufacturing jobs, New York City's industrial sector atrophied. Its industrial firms laid off 6% of their employees.

"We seem to have an environment that is not congruent with entrepreneurship and innovation," BLS commissioner Ehrenhalt explains. "This is what New York had in the 1940s and '50s, and now it's just sputtered out. All that small-scale production has been moving out in droves."

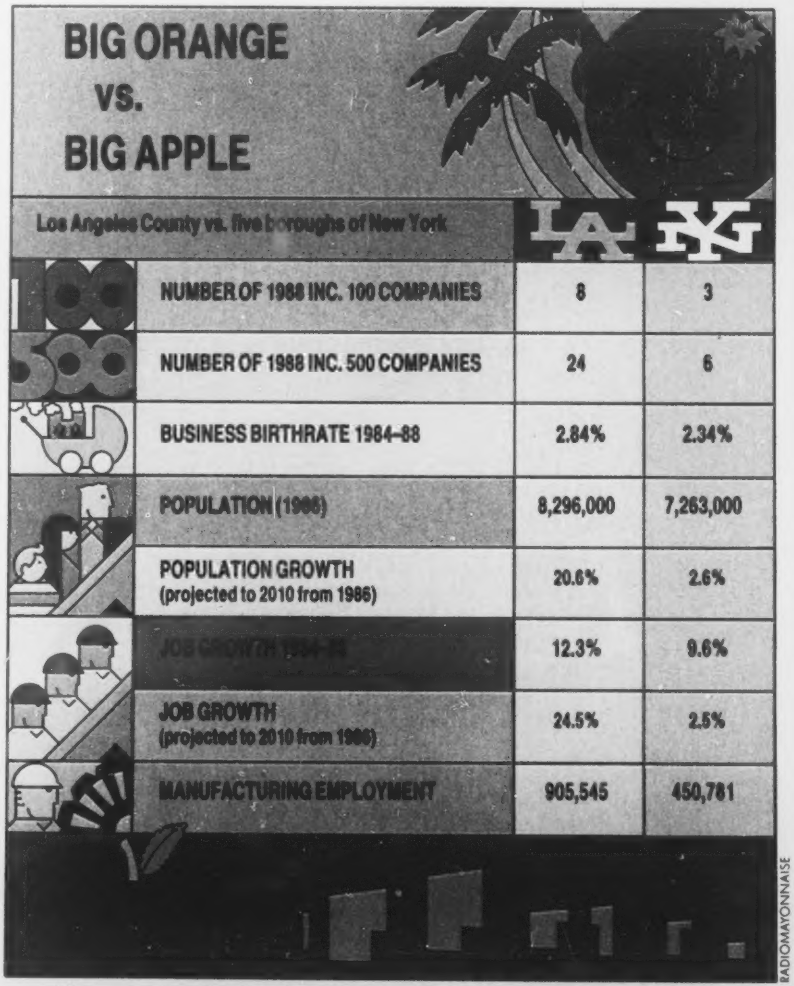
Until the stock-market crash, such arguments were dismissed as archaic by those who saw the decline of local manufacturing as part of an inevitable evolution toward a postindustrial economy. And certainly some growth companies involved in financial services, such as the First Manhattan Consulting Group, have continued to thrive despite the hard times. "For us, the Crash has helped, since people needed more [consulting] help," observes company president Jim McCormick, whose 1988 sales reached $20 million, up from $14.6 million the previous year. "Many of our customers, the investment banks and the big [commercial] banks, are here, so this is where we should be headquartered."

But McCormick's experience is atypical. Wall Street, largely responsible for New York's economic recovery in the early 1980s, eliminated 12,000 jobs in the first half of 1988. New York City's economy has started to falter, with job growth falling to almost one-third of the national average. Other key indicators—such as the office vacancy rate, which is expected to reach 15%—suggest further weakening.

Meanwhile, other regions have been enjoying robust economic growth. While the financial-services industry has suffered from the Crash and a weaker dollar, industrial and export-oriented regions—from the Pacific Coast to the Rust Belt—have experienced strong growth. "Current conditions with the dollar," notes economic forecaster Albert E. Sindlinger, "have made New York the weakest spot in the country. The dependence on financial services and real estate is making it decline fast."

Southern California is among the winners in the move to a lower dollar. With the most small, fast-growth industrial companies in the nation, Los Angeles has emerged as the leading manufacturing region in North America, with well over 900,000 factory workers, almost three times as many as New York. This industrial might, maintains Jerry Jordan, senior vice-president and chief economist for First Interstate Bancorp., puts Los Angeles in the position to reap benefits from the weakened greenback in ways not possible for an increasingly deindustrialized, nonexporting New York.

"In 1987 we started to pass the baton from the consumer and financial sector to the producer sector, with manufacturing providing the dynamism," Jordan explains. "This change tilts toward Los Angeles and away from New York." *(continued)*



BIG ORANGE
vs.
BIG APPLE

Los Angeles County vs. five boroughs of New York	LA	NY
NUMBER OF 1988 INC. 100 COMPANIES	8	3
NUMBER OF 1988 INC. 500 COMPANIES	24	6
BUSINESS BIRTHRATE 1984–88	2.84%	2.34%
POPULATION (1986)	8,296,000	7,263,000
POPULATION GROWTH (projected to 2010 from 1986)	20.6%	2.6%
JOB GROWTH 1984–88	12.3%	9.6%
JOB GROWTH (projected to 2010 from 1986)	24.5%	2.5%
MANUFACTURING EMPLOYMENT	905,545	450,781

RADIOMAYONNAISE

West versus East: Los Angeles outperforms New York in categories of job growth, manufacturing employment, and the number of INC. 100 and 500 companies.

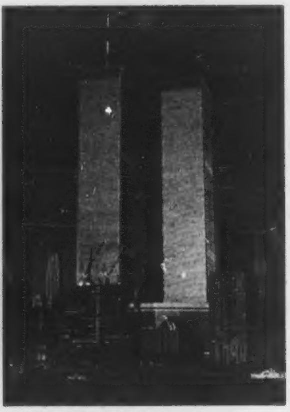
Take, for example, Windline Amanet, a fast-growing Los Angeles manufacturer. The company produces a range of products, from marine hardware to industrial and aerospace components—with a rising proportion, now roughly 10% of output, going overseas. Company president Robert G. Barbour describes Los Angeles's diverse and highly entrepreneurial economy as ideal for small manufacturing concerns.

"This town's an incubator for people like me," says Barbour, who saw 1988 sales of more than $3.5 million, a jump of some 75% from the previous year. "Nothing is too bizarre out here. No matter what you want, let's say 100,000 purple paper clips, you can find 50 suppliers who can do it in this town."

But a dynamic industrial economy means more than growth for entrepreneurs. It also provides important opportunities for minorities and immigrants, a significant factor considering that approximately one out of every eight foreign-born Americans called Los Angeles County home in 1985. In some of the county's manufacturing industries, Hispanics constitute almost half of the work force.

Los Angeles provides opportunities for immigrants . . .

PHOTOGRAPH: BILL ROSS, WESTLIGHT



While New York's minorities remain outside the economy.

PHOTOGRAPH: VALERIE BROWN, UNIPHOTO

In contrast, the decline of New York City's industrial sector has denied similar opportunities to the city's large minority population. Predominantly black and Hispanic Brooklyn—just across the East River from glittering Manhattan—has lost nearly one-third of its manufacturing jobs in just the past 10 years. Although official unemployment rates remain low, the somber reality is that nearly half the city's working-age population are not employed and are not seeking employment. For those seeking jobs today, New York is now among the worst cities in which to land an entry-level manufacturing job.

In contrast, Los Angeles leads the nation in the number of both Hispanic and black-owned businesses. And in a recent study of Asian-owned businesses, Los Angeles recorded a per-capita rate of ownership almost 50% higher than New York.

These immigrants are helping to transform once-provincial Los Angeles into a cosmopolitan cultural center. And Los Angeles exports that culture, boosting sales of locally produced music, film, and television programs to world markets. "Los Angeles represents the lifestyle people want, and the Japanese love L.A. even more than we do," says Sandy Saemann, executive vice-president of LA Gear Inc., a fast-growing retailer of athletic footwear and other accessories now selling in East Asian markets. "Tokyo is more interested in what's going on in L.A. than in New York."

And Los Angeles has begun to challenge New York's last great bastion of power, its financial-services industries. Spurred by the growing presence of foreign (largely Japanese) financial institutions, Los Angeles in recent years has emerged as the undisputed financial center of the West Coast. The growth of new industry and continued rapid immigration has led to an increase in deposits in local financial institutions. Between 1980 and 1985, for instance, total deposits in Los Angeles's banks and S&Ls jumped more than 60%, while those in New York declined.

New York's financial giants are themselves key contributors to this growth, which is already putting Los Angeles within striking distance of the Big Apple's financial assets. Even as they cut back their operations in Manhattan, many prominent investment banks—including Dean Witter Reynolds Inc. and First Boston Inc.—have boosted their payrolls in Los Angeles. James D. Farley, vice-chairman of Citicorp, the nation's largest financial-services company, notes that with the inception of interstate banking between New York and California in 1991, this East-to-West trend is likely to continue.

A 39-year Citicorp veteran and member of its board of directors, Farley came to Los Angeles in January 1987 to head up the bank's California and Pacific Basin operations. He sees the city as a financial center eventually rivaling New York. Already, Citicorp has boosted its employment in California to more than 6,000 employees, up from 2,500 in 1982, and Farley expects that by the year 2000 there'll be as many employees in its Los Angeles–based operation as in New York.

"You can't sell New York short—it's a fantastic place with lots of talent," Farley notes. "But you have to realize that the great growth will be out here. This is where the future will be exciting."

Numerous factors lie behind this newfound appreciation for Los Angeles's prospects. There has been the rapid increase in Asian economic power, something that most directly benefits Los Angeles as the prime entrepôt for Pacific Rim trade. Equally important, there is a growing recognition of the advantages—in terms of skills, entrepreneurial spirit, and dedication to work—the new immigrants bring to local economies.

"Immigration is increasingly the key, and Los Angeles has both the immigrants and their trade," notes George Sternlieb, professor and regional growth expert at New Jersey's Rutgers University. "There's nothing wrong with New York that 1 million Chinese wouldn't cure."

Most important of all has been the change in how people look at the economy. Cities once traced their economic power by the number of *Fortune* 500 companies based there. Today many of those leading headquarters cities—including New York, Chicago, and Cleveland—are lagging in economic growth and job creation. Virtually all of the nation's fastest-growing regions are predominately small business–oriented, characterized more by sprawling suburban development than high-rise office towers.

This change in economic-development patterns also suggests that Los Angeles—which according to recent U.S. Commerce Department surveys should pass New York City in terms of population, employment, and total personal income by the year 2000—will never achieve the absolute hegemony over the national political, economic, and cultural scenes that New York enjoyed in its heyday. "We are looking at a more deconcentrated kind of power now," observes Michael Barrone, coauthor of *The Almanac of American Politics.* "It's a rare thing when a country's leading city can be 2,400 miles from the greatest concentration of population. If it's domination, it will be more diffuse than we've seen before."

And maybe that's how it should be. Los Angeles can't presume to be the center of everything. No city can, but Los Angeles may emerge as the prototype of a new kind of American metropolis—one that seeks its sustenance not from entrenched institutions, but from the entrepreneurial verve, work ethic, and creativity of its people. ☐

HANDS ON

A Manager's Notebook

COMPENSATION

NATIONAL GUIDE TO SALARIES

Ever feel like you're in the dark when trying to figure out what to pay your new payroll clerk? Ever wished you had a reliable frame of reference when negotiating salary with your marketing manager at review time? Depending on your needs, it may pay to invest in one or all of the 1988 Salary Surveys from the Administrative Management Society (AMS): *Office Salaries Report, Data Processing Salaries Report,* and *Management Salaries Report.*

Each covers 20 specific positions in six regions, seven industries, 94 cities, and two company-size categories. The data include starting, average, low, and high wages; the number of companies reporting from each city; and how many employees figured into the rate calculations for more than 2,500 North American companies representing some 250,000 employees.

Each report costs $135, or get all three for $350. For more information, write: 1988 Salary Surveys, AMS, 4622 Street Road, Trevose PA 19047, or call (215) 953-1040.

QUOTE OF THE MONTH

> *'Keep the right goal in mind: don't look for money, look for applause. If you create something of value the sales will come.'*
>
> *—Robert Ronstadt, chairman and CEO of Lord Publishing Inc., in Natick, Mass., and developer of the Academic Program in Entrepreneurial Studies at Babson College*

SELLING

CUSTOMER AS SALESPERSON

You know your company is the best there is, but how do you persuade your prospective customers of that? You can't just tell them so—your testimony will be dismissed as puffery. The solution?

Use the testimony of your current customers, says Michael M. Nightingale, president and CEO of GMIS Inc., a Malvern, Pa., maker of software for the health-care industry. They're the best salespeople you've got.

As part of his basic sales pitch, whether he's trying to land a new customer or obtain a bank loan, Nightingale hands out a list of his 60 current customers and suggests the person on the other side of the desk call some of them to find out more about GMIS.

"If they ask me to pick the names," he says, "I give them people who will rave about us *and* at least one company where we had problems. People know that things don't always go well. What's important to them is how you deal with that. By giving them the name of a place where we fell down at first—but bent over backward to correct the problem—they find out. It's much more effective than anything I can say."

Do the referenced customers mind? Not in Nightingale's experience. "They're happy to help out." ☐

MOTIVATION

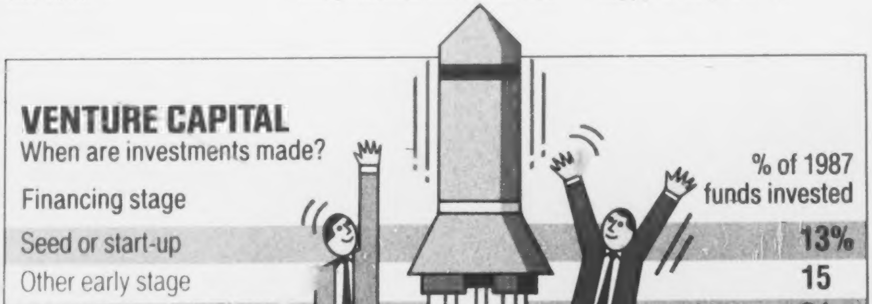
SENDING REPORT CARDS HOME

To help his salespeople reach their goals, Tony Frederick has found an effective way to get their spouses involved.

Frederick, CEO of FrederickSeal Inc., in Bedford, N.H., a marketer of industrial sealing devices, holds a party every January for his salesmen and their wives (Frederick's sales force is all male). There, he announces an expenses-paid December vacation for each couple that meets specific selling goals for the year. Last year the winners went to Acapulco; the destination in 1989 is Aruba. Every month Frederick sends report cards home to the spouses, detailing how well their husbands are moving toward their goals.

The system, says Frederick, motivates the women to help out at home. It gives them added reason to be tolerant of their husbands' long hours, too. "A salesman can tell his wife he's doing great, but each month she really finds out," says Frederick.

The report card also keeps the reward squarely in view at all times. "Most people can't keep their eye on the target when it's so far away," Frederick says. "We make it more immediate." ☐



VENTURE CAPITAL
When are investments made?

Financing stage	% of 1987 funds invested
Seed or start-up	13%
Other early stage	15
Second-stage expansion	31
Later-stage expansion	23
LBO/acquisition	11
Other	7

Source: *Venture Capital Yearbook,* Venture Economics, 1988

CHARTS: CYNTHIA DAVIS

MANAGING PEOPLE

Helping care for the kids

Benefit or work-schedule policy that aids employee child care	% of companies with 10 to 49 employees that offer benefit or maintain policy
Employer-sponsored day care	1.9%
Assistance with child-care expenses	2.4
Child-care information or referral services	4.3
Counseling services	3.8
Flextime	45.1
Voluntary part-time	36.0
Job sharing	16.0
Work at home	9.2
Flexible leave	43.8

Source: U.S. Department of Labor, Bureau of Labor Statistics, 1988

COMMUNICATING

HIGHLIGHT THE HOOK

Whether you're using the mail to pitch a product or appeal for help, it can be hard to know how much information to send along. Send too little material and it becomes meaningless, but send too much, and your prospect might not read it. Instead of either/or, how about both/and? Highlight key points in yellow, suggests David Yoho, president of The Professional Educators Group (who follows his own advice).

Yoho doesn't suggest trying to make an entire sale by mail. The highlights should serve as a hook—enough of one that prospects will get on the phone when you follow your mailing with a call. Your prospects may never read your entire packet, or they may not read it until after you've talked. But at least they knows that it's there, and that there's substance to back up your highlighted claims. □

SERVICE

EASY MONEY

Sometimes even your guaranteed service falls short. The job then, according to G.O.D. (Guaranteed Overnight Delivery) Inc. CEO Walter Riley, is to turn that minus into a plus. G.O.D. doesn't just offer a money-back guarantee—it sends customers their refunds even before they ask for them.

The Kearny, N.J., overnight express-freight company sends the accounting department an invoice, but it sends the purchasing agent a report detailing the previous month's deliveries and dates missed (if any) and a refund check made out to purchasing. Why not deal just with accounting? "Because the people who pay the bills don't decide who to use," Riley says. "This kind of itemized report really impresses purchasers, who 99% of the time don't even know they should get money back. A record and check is relatively simple for us to generate but would be a hassle for them. And they look better upstairs."

The policy not only provides Riley's salespeople with more ammo, but it reminds purchasing agents that G.O.D. is an *overnight* delivery service—unlike most other freight services. And it keeps company performance statistics rigorously up to date, enabling Riley to take the pulse of G.O.D at any given moment. □

MARKETING

PACKAGE DEAL

Competing on price means more than just offering a lower rate. For providers of professional services in particular, it can help to be innovative in the *way* you price your work.

James E. MacDougald, CEO of Applied Benefits Research Inc., in Clearwater, Fla., says he enjoys a major advantage by charging a package rate rather than by the hour. Clients don't feel like they're writing a blank check; they know exactly how much they will pay for his firm's consulting work on employee benefits. And because the second half of the payment is due only on satisfactory completion of the work, customers feel they are guaranteed a top-notch job.

That arrangement keeps MacDougald and his employees working hard on quality. "It forces you to sharpen your quality control," says MacDougald. "You can't ever afford to get fat and lazy. I like that pressure—it makes us behave as the customer wants us to behave."

For the system to work, according to MacDougald, a provider must be well organized as well as self-confident. "The key is to define the project in advance," he says. □

BENEFITS

Are your employees in the dark?

Asked what type of health insurance they [illegible]

Traditional fee-for-service plan	33.4%
HMO	10.1
Preferred-provider organization	5.7
Uninsured	8.4
Other	18.1
Don't know	24.3

Almost 25% of surveyed employees didn't know what kind of health coverage their employers provided.

Source: Corroon & Black Inc., 1988

MANUFACTURING

THE SAFETY GAME

As any factory operator knows, productivity suffers badly when shop-floor accidents cause lost work time. Can simple incentives encourage manufacturing employees to work safer? Melia Peavey thinks so. She encourages more careful work habits by setting up a daily game of bingo.

Here's how it works: Meridian, Miss.-based Peavey Electronics Inc. issues bingo cards to employees at each of its manufacturing plants. At the end of any day in which there has been no lost time due to accidents, a number is called over the PA system. Making bingo is worth a $100 U.S. savings bond.

"It works because it's so simple for employees to keep up with," says Peavey, the company's vice-president. "And it makes a nice close to the day."

Since the company introduced the game seven years ago, Peavey reports, the average lost time per employee due to on-the-job accidents has fallen by about 20%. □

Reported by Paul B. Brown, Teri Lammers, Martha E. Mangelsdorf, Stephen D. Solomon, and Ellie Winninghoff

HELLO? HELLO?

Voice mail can solve many of your telephone-answering problems—provided you get the right system

BY CARY LU

It happens to everyone in business—usually several times a day. You call someone who isn't in. Rather than dictate a long message to a busy receptionist, you leave your name and phone number, which the receptionist jots down on a pink "while you were out" slip. When the call is returned, you're the one who is out, so you find a pink slip on your desk, and the game of telephone tag is off and running. It can take three calls to get two business parties talking to each other—provided the pink slips get to their desks in the first place. There must be a better way.

For some companies, voice mail—telephone technology that manages messages without paper—may be the solution. The simplest form of voice mail is an answering machine. Connected to your office phone, an answering machine lets callers leave any kind of message, however long or complicated, and you can retrieve your messages by calling in from wherever you are. If both you and the person you are trying to reach have answering machines, you can even have a dialogue of sorts.

But answering machines are designed for use at home, not at a business, so they are limited in what they can do. A business alternative is a complete voice-mail system. Here's what such a system can do.

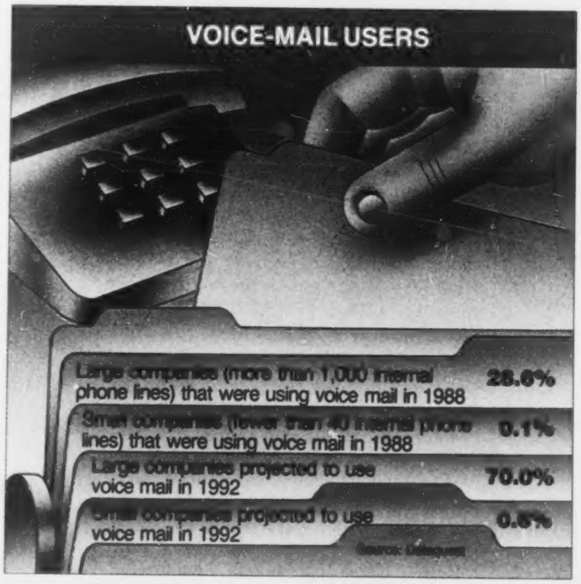
☐ **Serve many people.** Every person with a phone in effect has a private answering machine with a personalized greeting.

☐ **Record personal messages.** You can record messages that will be played back only to persons who have been given a special access code. You could, for example, record information about flight and arrival time that could be retrieved only by the person meeting you at the airport.

☐ **Forward messages.** When you are away from your usual phone, a voice-mail system can record an incoming message, then call you wherever you are and play the message back; you don't have to continually call your "mailbox" to find out if you have any messages.

☐ **Distribute messages.** You can record a message and have the system route it to several people—to all of your sales force, for example.

☐ **Screen and hold calls.** A few systems greet incoming calls with a recording ("You have dialed John Smith on extension 413. What is your name, please?"). John Smith hears who is on the line and can answer the call or direct the voice-mail system to take a message ("John Smith is not able to take calls right now. You may leave a message after this tone"). Callers who are put on hold are told how many people are waiting ("You are the third caller waiting to talk to John Smith. You may continue to wait, or you may leave a message by pressing 1").


VOICE-MAIL USERS
Large companies (more than 1,000 internal phone lines) that were using voice mail in 1988
28.6%
Small companies (fewer than 40 internal phone lines) that were using voice mail in 1988
0.1%
Large companies projected to use voice mail in 1992
70.0%
Small companies projected to use voice mail in 1992
0.8%
Source: Dataquest

The key to selecting a voice-mail system depends less on features than on the service that will be provided.

SAM WARD

☐ **Provide a bulletin board.** Employees can phone in for messages of general interest, such as office closings or the date of the company picnic. Bulletin boards can be open to everyone or restricted to authorized persons with an access code.

☐ **Furnish access to a computer database.** An elaborate voice-mail system can be tied into a company's main computers so that, for example, salespeople can look up inventory and customers can call in and track the progress of their orders.

☐ **Serve as an automatic attendant.** Most voice-mail systems can go beyond taking and routing messages, answering all phone calls automatically with a standard recording ("Thank you for calling the Acme Co. If you know the extension of the person you are calling, please dial the extension now. Dial zero for an operator"). Many calls can thus bypass the receptionist. An automatic attendant can also eliminate the need for a special "night-line" arrangement after office hours.

If your company is expanding rapidly, buying your own voice-mail equipment may not be a good idea, as you could quickly outgrow the system. But you can contract for the service through bureaus that operate like traditional answering services. Some local telephone companies sell voice-mail services in much the same way as they sell call waiting or call forwarding. Either way, the equipment is on somebody else's premises but is connected to your telephone lines. The price for this convenience tends to be high, and you are usually limited to basic features.

If your operations are stable enough so that buying a system makes sense, you can select from more than 40 vendors. Usually, the equipment is installed in your office and connected directly to your phone lines or PBX (private branch exchange) system. The price is based on three main variables: the number of telephone lines a system can handle, the system's storage capacity, and the amount of support provided. The price does not have much to do with a system's features; even the least expensive system offers a full array of options. And if you think about how most people use their phone systems, it's likely that many of these features will never be used anyway. Most of us learn only the simplest phone functions: "I'll try to transfer you, but if you get disconnected, dial this number. . . ." As a result, selecting a voice-mail system depends less on features than on other factors, such as the service that will be provided. Look for expandable systems or for a dealer who will let you trade up when necessary.

Low-end systems are designed for small offices with up to four incoming phone lines, or for a small work group within a company that does not have a comprehensive voice-mail system. The low-end products are built as accessory circuit boards that can fit into an IBM PC or clone. Prices are modest: about $300 to $1,000 retail for the boards, plus about $1,200 for a computer, which you may have already. Most of these systems allow you to continue running other programs on the computer at the same time. (For a good survey of this class of products, see "Voice Mail Systems," *PC Magazine*, January 17, 1989.)

The main voice-mail market consists of midlevel systems selling for $10,000 to $40,000, which can handle from 10 to 400 people. Prices are falling, and systems capable of serving 10 to 50 people should be available for less than $5,000 by the end of this year, although installation charges may raise the price. (There are also high-priced systems, but these are designed to cope with many hundreds or thousands of users.) Midlevel systems normally work in conjunction with a PBX or on Centrex (a phone system in which each extension has its own complete phone number).

A computer user with some experience can put in the software for low-end systems, but for mid- to high-level systems, professional installers usually start them and make any major changes needed in the software, which specifies how calls are routed, sets up mailboxes, and so on. Some newer systems come with microcomputer software that lets you set up and reconfigure your own system. Nonetheless, the quality of support from your dealer is the most important factor in buying mid- and high-level voice-mail systems.

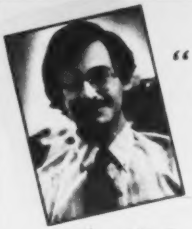
When you are considering whether voice mail is appropriate for your company, don't ignore the human factor, on both the calling and receiving ends. Callers with rotary-dial phones will not be able to use voice mail at all—it can be operated only from touch-tone telephones. People who refuse to talk to answering machines aren't going to like voice mail either. If you think your calling public will be put off by voice mail, yet you want a system for internal use, consider having a public telephone number that is answered by a receptionist and a separate, private phone number connected to a voice-mail system for employees and people with whom you regularly do business.

Think carefully, too, about what your messages say; remember, your callers will have to slog through the same greeting every time they call. Avoid long, tedious menus that encourage callers to hang up ("Welcome to the Acme Co.'s electronic voice-mail system. Press 1 for sales; press 2 for service; press 3 for . . . "). Too many voice-mail menus seem more intent on showing off the system than speeding up calls. Some installations even force callers to listen to editing choices at each step ("Press #1 if you want to replay your message; press #2 if you want to add to your message; press #3 if you want to erase your message . . . "). You'll want your menu to be short and efficient and to assure callers immediately that help is on the way even if they don't punch any buttons. Calls should always go to an operator if the caller does not make a choice within a few seconds, and people familiar with the system should be able to punch in their choices regardless of what the system might be saying.

Menus are easy to change; voice-mail hardware is not. And it is the hardware that determines how you get incoming messages. The design of most current mid- and high-level systems makes them clumsy to use if you have more than a few messages. Unlike pink slips, voice mail doesn't let you see all your messages at a glance. Since you can operate the system only through a telephone, you have to concentrate and listen; instead of shuffling slips of paper, you have to carefully press buttons on the phone. On most systems, you have to listen to all your messages—whether 2 or 20—in sequence, and trying to find that one important message is a nuisance. Even though some systems let you skip over messages, it is still difficult to keep track of where you are; you can easily miss a brief message if you are momentarily diverted.

Problems like these could be alleviated if phone networks, voice mail, and computers were all integrated. Such convenience now comes only with a few low-end PC circuit-board systems and Wang's voice-mail package. These systems allow you to bring up a list of your messages on the screen, listen selectively, and annotate messages while you are listening. Calls are sorted by time and date, and you can group messages and retrieve them later.

One day, comprehensive message management will integrate voice mail with electronic mail. Then you'll be able to see every message, regardless of origin; when you select a message, it will be displayed on your computer screen if it has come via electronic mail, or it will be played through a speaker if it is voice mail. If you retrieve messages from a telephone, you will have the option of having the computer "read" your electronic mail to you with speech synthesis. With a properly set up system and a cellular telephone in your car, you need never miss a message again. ☐



" The ideal amount of competition in your company is none at all. "

Alfie Kohn, *author of No Contest: The Case Against Competition.*

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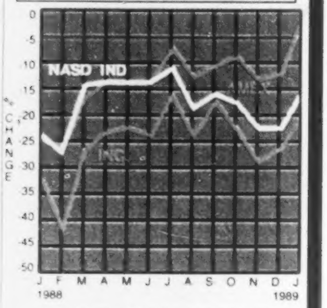
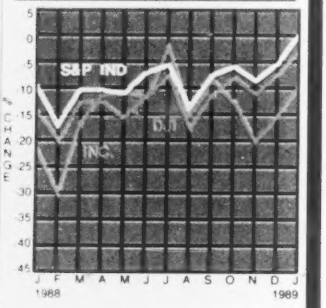
INC. vs. CONSERVATIVE AVERAGES



All averages start at 0 in October 1987

INC. vs. SPECULATIVE AVERAGES



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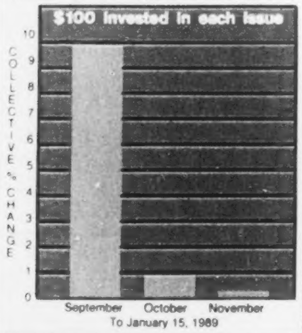
IPOs IN THE AFTERMARKET



To January 15, 1989

INITIAL PUBLIC OFFERINGS: DECEMBER 1988

O-T-C sym.	Company	Business/product	Offering Size ($mil.)	Offering Price	First aftermarket bid	Underwriter
BBV[b]	**Banco Bilbao Vizcaya, S.A.**	Commercial bank	163.13	36.25[d]	35¾	Goldman, Sachs
BLIS	**Bliss & Laughlin Industries**	Mfrs. & mkts. steel bars	8.93	10.50	10½	Blunt, Ellis
BST[b]	**British Steel PLC**	Mfrs. steel	420.84	11.22[e]	11⅜	Goldman, Sachs
CBLMU	**CBL Medical**	Manages health facilities	1.50	2.50[f]	2½	Paulson Investment
ERCE	**ERC Environmental & Energy Services**	Environmental research & consulting	11.20	7.00	7	Smith Barney
FLX[c]	**Flexible Bond Trust**	Closed-end fund	67.50	10.00	10	Paine Webber
FMCO	**FMS Financial**	Savings & loan holding co.	4.76	7.75[g]	7¾	Merrill Lynch
GLO[c]	**Global Ocean Carriers**	Acquires carriers	22.50	15.00[h]	14⅜	Merrill Lynch
GNWF	**GNW Financial**	Savings & loan holding co.	2.41	8.75[i]	9	Merrill Lynch
GWBB	**Greenwood Bank-Bethel**	Commercial bank	6.80	10.00	10	First Albany
HIFS	**Hingham Institution for Savings**	Savings bank	6.41	8.50[j]	8½	Keefe Bruyette
HTXA	**Hitox**	Produces pigments & extenders for plastics cos.	10.20	8.50	8½	Eppler, Guerin
HKT[b]	**Hong Kong Telecommunications**	Telecomm. co.	105.43	17.50[k]	18¼	Prudential-Bache
IBCO	**International Barrier**	Mfrs. highway barriers	5.01	7.00	7⅜	Josephthal
KLOC	**Kushner-Locke**	Develops & produces TV series	5.00	5.00[l]	5½	Stuart James
a	**LaserMax**	Develops & mkts. interface & applications software	0.90	5.00[m]	5	Neidiger, Tucker
OCLB	**Office Club**	Sells office products	13.50	9.00	9	William Blair
OPMCU	**OptimumCare**	Mkts. hospital-based programs	2.50	2.00[n]	2	Hibbard Brown
RSCNU	**R*Scan**	Provides weather-tracking svcs.	1.50	4.00[o]	4	L'Argent Securities
RMF[b]	**RAC Income Fund**	Closed-end fund	115.20	12.00	12	Shearson Lehman
WLPI	**Wellington Leisure Products**	Manufactures recreational products	7.13	9.50	9⅝	Interstate

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Initial public offerings sold at $1 or less not included. First aftermarket bid is approximate. [a]= no symbol; [b]= trading on NYSE; [c]= trading on AMEX; [d]= each American Depository Share represents 1/2 ordinary share; [e]= 18 million ADS represents 180 million ordinary shares; [f]= units of 1 common + 1 warrant; [g]= an additional 660,686 shares sold by subscription; [h]= an additional 1.5 million shares were offered overseas; [i]= 1.7 million shares offered via subscription; [j]= 496,168 shares sold by subscription; [k]= each ADS represents 30 ordinary shares; [l]= units of 5 common; [m]= units of 5 common + 5 warrants; [n]= units of 2 common + 2 warrants; [o]= units of 2 common + 1 warrant. Offering data source: *GOING PUBLIC: THE IPO Reporter*, a publication of The Dealer's Digest Inc., 150 Broadway, New York NY 10038.

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APR. 1989
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COMING OF AGE

How the Events of the Past Decade Have Changed the Way We Think About Business

PLUS

ENTREPRENEUR OF THE DECADE

An Interview with Steve Jobs

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by
Ed Kashi

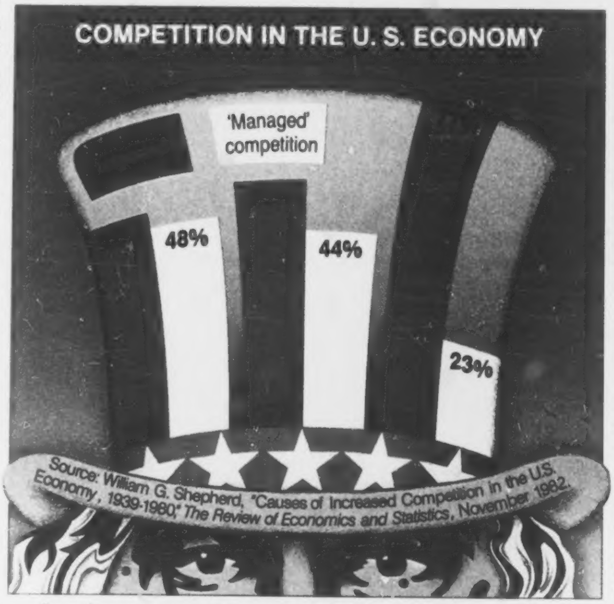
COMPETITIVE ADVANTAGE

The entrepreneurial boom of the '80s grew out of profound market changes in the '70s. So what can we expect in the '90s?

BY JOHN CASE

When I studied economics in college—this was 25 years ago—I learned about those perfectly competitive markets economists are so fond of. I also learned about the huge corporations that, by dominating their industries, had all but eliminated effective competition in much of the real world. The giants, pointed out theorists such as Harvard's John Kenneth Galbraith, jostled with one another for a point or two of market share. But they set their own prices, managed the demand for their products, controlled their suppliers and distributors. To say they were governed by free-market competition was to stretch the concept beyond recognition.

How could the past decade's entrepreneurial explosion have occurred in so thoroughly managed a marketplace? The answer, of course, is that it didn't, and thanks to the work of University of Massachusetts at Amherst economist William G. Shepherd we know why not. By 1980 the American economy had undergone a series of changes that rendered the Galbraithian model obsolete. Shepherd's accomplishment was measuring how much difference those changes made.



Source: William G. Shepherd, "Causes of Increased Competition in the U.S. Economy, 1939-1980," The Review of Economics and Statistics, November 1982.

Over three-quarters of the nation's output in 1980 was produced under true competitive conditions, up from half in 1939 and 1958.

SCOTT MACNEIL

Galbraith's model rested on what economists call institutional analysis—that is, sector-by-sector scrutiny of the way individual industries actually functioned. Autos were dominated by the Big Three, steel by U.S. Steel, detergents by Procter & Gamble and Colgate-Palmolive. Two massive studies, Shepherd knew, had determined that about half the U.S. economy fit this model of what might be called managed competition, while the other half was considerably more freewheeling. But the 1970s were a decade of turmoil, with imports invading major markets and trends such as deregulation beginning to affect whole industries. In that turmoil, Shepherd found himself wondering if the underlying structure of the economy was shifting.

The only way to answer the question was through yet another massive study, breaking the economy into its component parts and figuring out what, if anything, had changed. Was General Motors or P&G facing new competition? Was the structure of the banking industry somehow different in 1980 from what it had been in 1960? Shepherd, who had studied such matters for much of his career, collected government reports, industry analyses, and research monographs; he studied antitrust cases and combed the business press.

Then he plunged in, sifting through information on literally hundreds of industries. *Automobiles*. Once a prototype for Galbraith's arguments, it was now effectively competitive, thanks to a rise in imports from less than 10% of shipments in 1967 to about 25% in 1980. *Banking*. The rise of money-market funds and the subsequent deregulation of financial services had led to a sharp increase in competition. *Breakfast cereals*. No change here: it was utterly dominated, as it had been for decades, by Kellogg and its colleagues. Using benchmarks such as the market share controlled by the top four companies in an industry, Shepherd assigned each sector a number from one to four, indicating the degree of competition. Then he weighted the sectors by their share of national income and compared his totals with previous studies.

The results: where researchers studying data from both 1939 and 1958 had found about half the nation's output produced under true competitive conditions, Shepherd now upped that estimate to over three-quarters. *Office copiers*. Once dominated by Xerox, the industry was transformed by the arrival of imports in the 1970s. *Automotive rentals*. Cozy arrangements involving the three largest companies' airport locations were the subject of a major antitrust action, thus opening the field to new competitors. *Railroad transportation*. Deregulated in 1976 and 1980, its routes and rates were suddenly up for grabs.

Overall, the conclusion was inescapable. "The U.S. economy experienced a large and widely spread rise in competition during 1958–80," Shepherd wrote in the prestigious *Review of Economics and Statistics* for November 1982. "It can now be viewed as a large laboratory case, in which the effects . . . of pervasive competition will be tested for the next decade or two."

In retrospect, we can see one such effect clearly: drastic shrinkage in many big companies' market share, coupled with a quick, dramatic rise in entrepreneurship. Some of the linkages are obvious, such as the proliferation of rental-car companies following the antitrust case. Others are less visible but no less significant. Challenged by Toyota and Nissan, Detroit turned its attention to cost control, laying off tens of thousands of workers and relying heavily on outsourcing. That set the stage for the hundreds of growing companies now supplying the auto industry. Entrepreneurship was a cause as well as an effect of increased competition. Every stage in the growth of the microelectronics industry, for example—from the devel-

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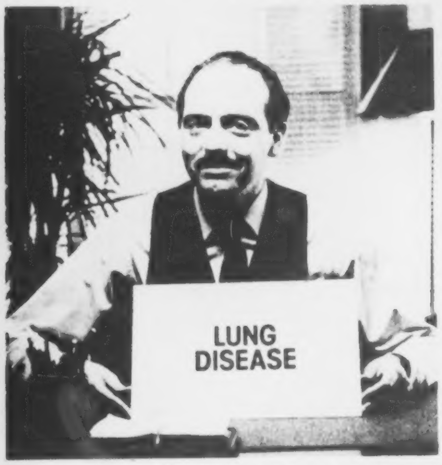

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—John Moschitta, the fast talker.

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opment of the transistor to the latest applications software—was pioneered by upstart companies. Despite its size, IBM has never been able to relax.

Will the trend continue? As Shepherd's study suggests, that depends to some extent on changes in competitive conditions, which are difficult to assess in the absence of another major study. Nevertheless, Shepherd himself, now 52, says he believes the economy is just about as competitive today as it was a decade ago, and most businesspeople would agree. So can we expect the entrepreneurial boom of the '80s to carry on into the next decade? Not necessarily. A *continuing* high level of competition is not the same as an *increase* in the level of competition.

Can we expect the entrepreneurial boom of the 1980s to carry on into the next decade? Not necessarily.

What happened in the '70s was that markets were destabilized—some by new technologies, others by deregulation or imports. That opened up all kinds of niches for growth-oriented company builders. Today, technology continues to change and to shake up the marketplace, thereby offering new opportunities. But a lot of U.S. industries have already reacted to the threat of imports or the opportunities of deregulation, and some are in the process of restabilizing. The clearest example is air transportation. A bevy of new airlines were created after deregulation in the late '70s. By now, most of them have been bought up or shaken out. The industry is moving toward the Galbraithian model, its three or four dominant players blithely increasing fares whenever they feel like doing so.

No one's predicting a wholesale return to the managed markets of the '60s, nor to the kinder, gentler competition they encouraged. But no one should expect as much turmoil—and therefore as much chance for entrepreneurship—as we experienced in the '70s. As Shepherd showed, that was a change of historic proportions. Today, we're more likely to slouch toward stability. And entrepreneurs will have to look harder and harder for niches conducive to growth. ☐

HANDS ON

A Manager's Notebook

CAPITAL

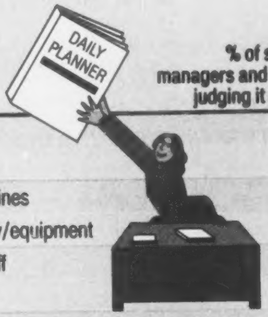
KEEPING THE VC DOOR AJAR

One of the hardest things about raising money from venture capitalists is getting in to see them. Business plans arrive on their doorsteps hourly, and with the market for new issues deader than John Travolta's career, they're not all that eager for deals.

"You can't call them daily—they don't want to deal with a pest. Yet you want to stay on their agendas," says Michael M. Nightingale, president and CEO of GMIS Inc., in Malvern, Pa., who has discovered a way to do just that.

Nightingale, whose company makes software for the health-care industry, keeps a file of every venture capitalist who has ever expressed even the vaguest interest in GMIS. "Whenever there's new information, we do a mailing," he says. Sending the letters makes it easier to get his calls returned, he says. It must be working: so far the company has raised more than $6 million. ☐

CUTTING OVERTIME



Technique to reduce overtime	% of surveyed managers and workers judging it effective
Plan more effectively	86.3%
Streamline procedures	59.1
Change schedules/deadlines	35.0
Acquire better technology/equipment	34.9
Hire more permanent staff	25.9
Hire temporary workers	25.3

About 65% of surveyed top managers said they work more than 50 hours a week. Responses to questions about how to control overtime indicate that at least some of the overtime reported by respondents is indeed making up for poor management. Only about one-fourth thought more staff would solve the problem.

Source: American Productivity & Quality Center, 1989

MANAGEMENT STRATEGY

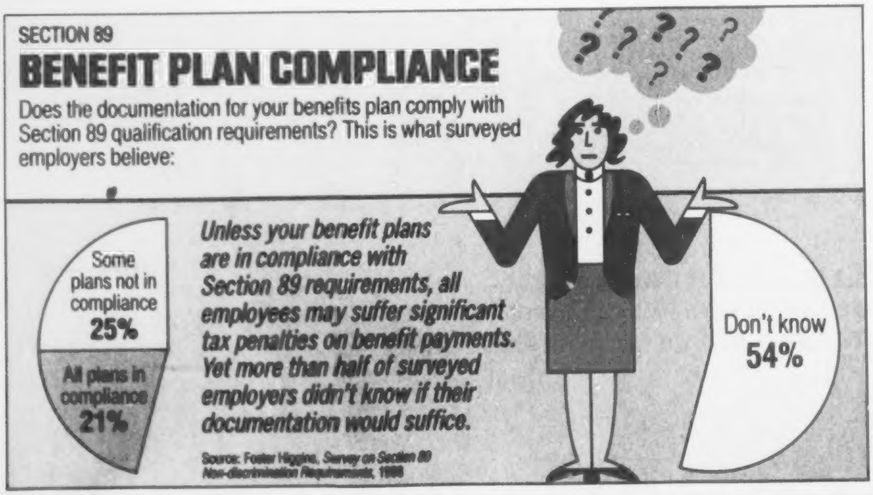
HANGING ON TO THE REINS, IF NOT THE EQUITY

What most founders fear when it's time to raise money is losing control. The fear isn't groundless. Many entrepreneurs who sell a majority of their company's stock in order to bring in capital are later thrown out by investors when times get tough. Robert Ronstadt, CEO of Lord Publishing Inc., has a solution.

When Ronstadt became a minority shareholder in his Natick, Mass., software publishing company last year, he retained operational control by establishing a voting trust. He now owns 43% of Lord Publishing's stock, but controls 79% of its voting shares. Because the five trustees include Ronstadt, his wife, and another relative, he can heavily influence the entire bloc of its shares.

Ronstadt set up the trust for 20 years. But the important thing, he says, is that entrepreneurs protect their positions at least until their companies reach a period of stability, which he defines as 12 months of positive operational cash flow.

Ronstadt concedes that investors may demand more shares or a lower share price in return for giving up their voting rights. He argues that a voting trust is well worth this cost. "It's imperative that the lead entrepreneur maintains the management control to fulfill his vision for the company," he says. "The opportunity for Monday-morning quarterbacking is incredible." ☐



SECTION 89

BENEFIT PLAN COMPLIANCE

Does the documentation for your benefits plan comply with Section 89 qualification requirements? This is what surveyed employers believe:

Unless your benefit plans are in compliance with Section 89 requirements, all employees may suffer significant tax penalties on benefit payments. Yet more than half of surveyed employers didn't know if their documentation would suffice.

Source: Foster Higgins, *Survey on Section 89 Non-discrimination Requirements*, 1988

INCENTIVE PAY

SIMPLEST MAY BE BEST

Sometimes the more complicated an employee incentive system gets, the less rewarding it can seem. When Prime Technology Inc., a Grand Rapids, Mich., machine-tool distributor, wanted to reward nonsales employees and encourage them to stay with the company, CEO Phil Pachulski implemented a bonus plan that's as simple as they come.

For every hour employees work, Prime puts a dollar in their year-end bonuses. Each year's bonus includes the amount from previous years plus the current year's total, up to $5,000 in all. Normally an employee works about 2,000 hours per year. If a worker did so for two years, he or she would rake in a $4,000 bonus. In year three the employee would receive $5,000. The bonuses are built into the annual budget, and the company awards bonuses only in profitable years.

"It's easy to track, easy to explain, and easy to understand," Pachulski says. "We're trying to motivate people in advance—not look back on the year and say thanks." ☐

CHARTS: CYNTHIA DAVIS

HANDS ON

INNOVATION

ANSWERING THE BONUS QUESTION

A big problem with most employee-suggestion systems is that the financial rewards, if they exist at all, are unrelated to the value of the suggestions. Without much incentive to find better ways to do things, many employees lose interest in trying. Not so at Peavey Electronics Corp. The Meridian, Miss., company pays hourly workers 8% of the estimated first-year labor and materials savings that result from their ideas.

Peavey, which makes amplifiers and guitars, used to have a more conventional system, rewarding suggestions with $25 to $100 bonuses, vice-president Melia Peavey explains. Paying for savings instead, she says, generates more excitement.

For each suggestion, the company projects the savings in a cost study. Then it pays the employee his or her percentage up front—a minimum of $15, with no maximum. "We give them the benefit of the doubt," Peavey says.

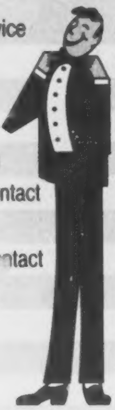
Salaried workers aren't included in the program. "Saving money is part of their jobs," she says, "and we don't want supervisors competing with employees."

In 1988 hourly workers earned a combined total of $43,857 for their ideas. The biggest check—$1,331—went to a machinist who figured out how to reduce the amount of maple scrapped by the neck-carving machine. ☐

SOURCES OF

ENTREPRENEURIAL SATISFACTION

Source of satisfaction	Importance on scale of 1 to 10 *(According to surveyed small-business owners)*
Pride in product/service	8.7
Control	8.2
Freedom	8.1
Flexibility	8.1
Self-reliance	7.8
Customer contact	6.9
Income	6.8
Employee contact	6.3
Recognition	5.9
Privacy	5.9
Security	5.5
Status	5.2



Source: Cicco & Associates Inc., 1987

PUBLIC RELATIONS

LETTER QUALITY

Don't miss an easy opportunity to communicate what's important about your business on your company letterhead.

So says Tom Melohn, of North American Tool & Die Inc. (NATD), in San Leandro, Calif. Across the bottom of NATD's stationery is the statement: "0.1% Customer Rejects Since 1980." This concrete detail about the company's commitment to quality has more impact than an abstract company slogan, he believes.

When customers the company surveyed expressed their incredulity at NATD's low rejection rate, Melohn decided it was just the number that he wanted to keep in front of their eyes. ☐

RESOURCES

A GUIDE TO GIVEAWAYS

Going after government grants, loans, or business services can make finding a needle in a haystack seem easy. But Matthew Lesko can help.

Lesko has produced a 448-page tome called *Government Giveaways for Entrepreneurs*, a guide through the maze of government agencies. Free money, on-line databases, market research, expert advice, grants, and loans are just a few of the offerings Lesko limns in a no-frills, well-indexed format designed for small businesses. Also included is a directory of bureaucrats paid to help you cut through red tape.

For more information, write Information USA Inc., P.O. Box 15700, Chevy Chase MD 20815; or call (301) 657-1200. The guide costs $29.95, plus $4 shipping. ☐

MANAGING PEOPLE

SOUNDING BOARD

Want to keep up with what your employees really think? Establish an employee sounding board, says Sally Tassani, founder of Tassani Communications Inc., in Chicago.

Tassani came upon the idea haphazardly. "There I was in a meeting with my key managers trying to figure out what employees wanted," she says. "I realized I should ask them myself. Boy, was I surprised." She learned in her first meeting with employees that a benefits package she had been agonizing over wasn't worth the effort. What they really wanted was more access, inspiration, and positive reinforcement from their managers. These were at least as important as a better bonus system.

"The meeting was so successful that I decided to do it on a regular basis," Tassani says. Now, she meets with a board of about 10 employees twice monthly.

To create the board, each department head recommended a nonmanagerial employee who has good communication skills and was caught up on work. The board even includes the company's clerical workers. "It eats up about an hour every other week, so I want the most efficient, bright, and capable employees," Tassani says. ☐

MARKETING

MAKING THE MOST OF MAILINGS

If you market by direct mail, you'd probably love to: (1) identify who reads your material, and (2) drop the prospects who never even open your brochure. Doug Hotchkiss, sales and marketing director of Overseas Adventure Travel Inc. (OAT), in Cambridge, Mass., thinks he has a way to do both.

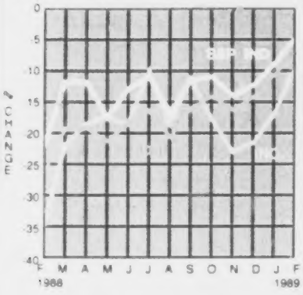
Last year OAT included a high-stakes contest in its mailing. In order to know about a trip to an exotic locale that the company was giving away—you could choose, say, Nepal or Peru—you had to at least open the six-page brochure. And in order to enter the contest, you had to answer six questions drawn from the brochure's text: for example, "Which nonfamily trip is the least difficult of our treks in Nepal?"

The trip cost the company as little as $1,800, Hotchkiss says, an insignificant expense compared with the $112,000 in printing and postage OAT saved by cleaning its mailing list of deadweight. Even better, those who entered the contest also had to answer questions about where they wanted to go and when: perfect fodder for OAT's salespeople. ☐

Reported by Paul B. Brown, Teri Lammers, Bruce G. Posner, Stephen D. Solomon, and Ellie Winninghoff

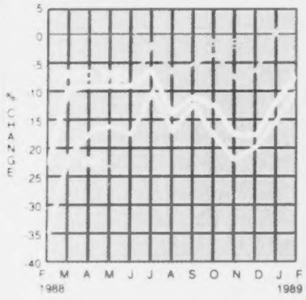
INVESTING IN GROWTH COMPANIES

INC. vs. CONSERVATIVE AVERAGES



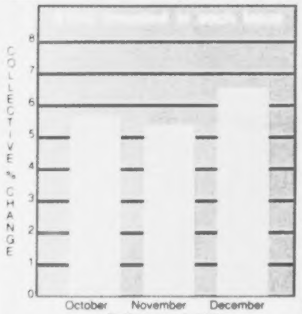
All averages start at 0 in October 1987

INC. vs. SPECULATIVE AVERAGES



All averages start at 0 in October 1987

IPOs IN THE AFTERMARKET



To February 15, 1989

INITIAL PUBLIC OFFERINGS: JANUARY 1989

O-T-C sym.	Company	Business/product	Offering Size ($mil.)	Offering Price	First aftermarket bid	Underwriter
AMFB	**American Federal Bank, FSB**	Savings bank	10.00	5.00[c]	5	Keefe, Bruyette
AGT[a]	**American Government Term Trust**	Closed-end fund	70.00	10.00	10	Piper, Jaffray
AMNTU	**American Network Group**	Operates radio network	5.00	5.00[d]	5¾	J. T. Moran
BPORU	**Biopore**	Dvlps. porous filtration membranes	6.00	6.00[e]	6½	D. H. Blair
FPT[a]	**Franklin Principal Maturity Trust**	Closed-end fund	177.00	10.00	10	Paine Webber
FSII	**FSI International**	Manufactures semiconductor products	10.88	7.50	7½	Piper, Jaffray
KMM[a]	**Kemper Multi-Market Income Trust**	Closed-end fund	204.00	12.00	12	Smith Barney
LGNDU	**Legend's Co. of Chicago**	Manufactures men's sportswear	3.00	4.00[f]	6¾	D. H. Blair
LYO[a]	**Lyondell Petrochemical**	ARCO subsidiary	960.00	30.00[g]	30⅛	Goldman, Sachs
TCA[b]	**Thermo Cardiosystems**	Dvlps. ventricular implants	15.30	8.50	8½	Shearson Lehman
VANF	**Vanfed Bancorp**	Savings bank	3.02	6.25[h]	6⅜	Dain Bosworth

Initial public offerings sold at $1 or less not included. First aftermarket bid is approximate. [a] trading on the NYSE; [b] trading on the AMEX; [c] 1.276 million of the 2 million shares were offered by subscription; [d] units of 3 common + 1 warrant; [e] units of 3 common + 3 warrants; [f] units of 4 common + 4 warrants; [g] 8 million additional shares were offered via subscription; [h] an additional 516,239 shares were offered overseas. Offering data source: *GOING PUBLIC THE IPO Reporter*, a publication of The Dealer's Digest Inc., 150 Broadway, New York NY 10038.

STREET TALK There's an arithmetic reason why it's better to be long in the stock market than short: you can never make more than 100% on the downside, while the profit potential of a long position is infinite. Concomitantly, you can lose only 100% of your investment on the long side, while the loss potential when a short goes wrong is infinite.

Over the years there have been actual situations in which short-sellers have been squeezed beyond their original capital commitment. That happens because in order to close a short position, you have to find stock to buy back in, and sometimes that's expensive if the outstanding shares are held by the corner's greedy architects. If some members of our investment community weren't so busy clipping prices on commodity futures and junk bonds, maybe they'd be baiting bears for sport.

As a redeeming condition for what short-side players give away—another concession is that short-side profit can never be considered a long-term gain for tax purposes—there's the empirical law that says markets fall faster than they rise. Shorts make their returns quickly and get out. That phenomenon can be seen in the accompanying charts (left), where what was undone in 3 months has taken 12 to repair.

The Street now pretty much considers Black Monday to be simply part of a bear market whose natural speed of descent was condensed severely. This, on a less dramatic scale, was called a shakeout in the old days—a sudden movement of shares from scared, weak hands to confident, strong holders, caused by rapidly falling prices. Such shakeouts were engineered by brazen money managers, often in individual issues. If only the rest of us had seen the Crash in that light at the end of '87. —*Robert A. Mamis*

CHARTS IMAGEBUILDER DESIGN

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THE MAGAZINE FOR
GROWING COMPANIES

MAY 1989
$3.00

Inc.

THE INC. 100
AMERICA'S FASTEST-GROWING SMALL PUBLIC COMPANIES

BLOW UP

The Anatomy of a Partnership Gone Bad

It was a Monday morning Jim Eme will never forget. Over the weekend, six of his eight salesmen had stolen into the company and cleaned out their desks. Gone, Eme says, were customer lists, price lists, and parts diagrams, even staplers. The place was barren—as empty as the feeling in Eme's gut. The company he had foun[illegible]d.

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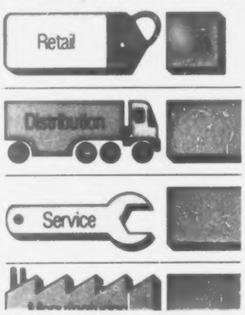

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COVER PHOTOGRAPHS
by
Patrick Harbron

INSIDER

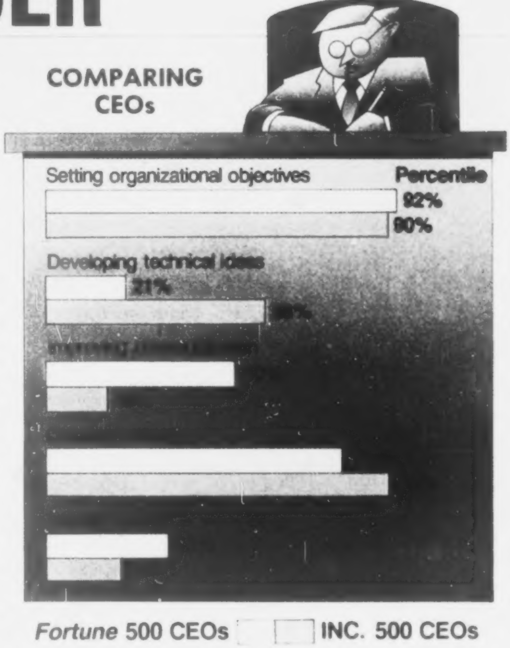
BIG VS. SMALL

How do the CEOs of INC. 500 companies stack up against their big-company counterparts? That seems a timely question, given the debate raging over the relative strengths of large and small companies. Hoping to answer it, we had Park Ridge, Ill.-based London House Inc. administer aptitude and job-skills tests to 70 top executives, half from *Fortune*'s Industrial and Service 500s and half from INC.'s list of the 500 fastest-growing privately held companies. The results are intriguing.

Many of the tests measured management skills. Not surprisingly, the older, more experienced *Fortune* 500 executives came out ahead in all but 5 of the 16 areas tested. But in one skill crucial to growing companies—the ability to promote the company to the outside world—the INC. 500 CEOs easily surpassed both executive norms and their *Fortune* 500 counterparts. INC. 500 executives also came out far ahead of the *Fortune* group in their ability to develop technical ideas, an area in which the large-corporation executives performed poorly. On the other hand, the INC. 500 CEOs were weaker in people skills such as improving channels of communication, supervising employees, and encouraging teamwork. Both groups' strongest job skill was long-range organizational planning.

In tests of mental aptitudes and abilities, both samples scored high but showed different intellectual fortes. *Fortune* 500 executives did exceptionally well in the area of vocabulary (better than 92% of the cases in the norm base), while INC. 500 CEOs were strongest in creativity (better than 90% of the executive population). Both groups were also well above average in drive, financial responsibility, and family-oriented lifestyle. But the tests revealed that both samples are exposed to above-average stress and anxiety, with the INC. 500 group showing the more extreme results. Fortunately, the INC. 500 CEOs also proved much better at working under pressure than both *Fortune* CEOs and the management population at large. Of course, that's probably a requirement of the job.

—*Martha E. Mangelsdorf*



How INC. and Fortune *500 chief executive officers scored in comparison with a database of more than 10,000 managers*

NEW BUSINESSES

By Leslie Brokaw

Baby Bloomers National competition may soon hit another mom-and-pop industry: flower shops. With more than $5 million from such investors as Federal Express, Dallas-based Flower Country USA plans to open retail stores with centralized delivery and operations, allowing shops to concentrate more on service and rack up higher profits. The first group of stores and central hub opened last November in Dallas.

Big Notes For 15 years, Richard Friedmar transcribed sheet music into enlarged notation for visually impaired piano students. Then he came up with a better solution: a kind of magnified slide viewer that projects music measure by measure. Friedmar Music Magni-Viewer, in Toledo, is targeting the machine and accompanying carousels of music to such institutions as nursing homes.

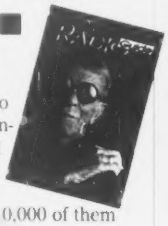
■

Spud Saver When the FDA banned sulfites on raw produce in 1986, researchers at Purdue University were already working on a nonsulfite option. Now, the FDA plans to ban sulfites in processed potatoes, too, and Extended Product Life Inc., in Bala Cynwyd, Pa., is marketing the Purdue-developed preservation technique, currently being tested by Ore-Ida Foods and General Foods. Estimated market: $300 million.

■

Flash Cards Prepaid Card Services Inc., in Pearl River, N.Y., is bringing electronic payment to school cafeterias. Its system allows children to pay with optically read cards. NCR Corp. provides the computers and marketing. The pitch? Faster lines, increased cafeteria usage, and better documentation of the number of students getting subsidized meals.

■



Radio Days Eight million people listen to radio in Los Angeles, and Phil Marino and Tommi Lewis hope at least 10,000 of them will buy their 95¢ biweekly listing of programs. *Radio Guide Magazine* hit L.A. newsstands in March after a three-month test. Radio Waves Inc. is betting that listeners who now use the radio randomly really want to know what's on, and when.

THE NEW ECONOMY

THE NEXT PRIORITY

Why it's not enough to create jobs

BY JOHN CASE

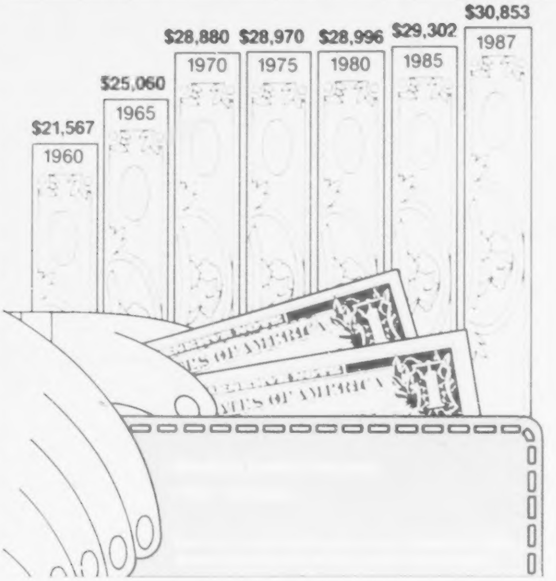
The New Economy that's been emerging over the past 15 years—an economy in which growing companies play an ever-greater role—deserves two healthy cheers. Since 1974 it has provided us with a whopping 29 million new jobs, thereby absorbing the huge baby-boom generation into the labor force. For the past decade or so, it has stimulated massive industrial restructuring, thereby enabling U.S. companies to compete on a global scale once more.

What this economy hasn't done, so far, is improve our standard of living.

Harsh words? Nope. Despite the efforts of *Fortune* magazine and others to put a rosy glow on the situation (see box, "Lies, Damn Lies, and Statistics," page 30), the facts are hard to dispute. All you have to do is browse through the latest *Economic Report of the President* and compare some fundamental figures for recent years with those for the early 1970s.

It's an eye-opening exercise. Median family income in 1987: $30,853. Median family income in 1973 (expressed in 1987 dollars): $30,820. Average hourly wages in 1987: $8.98. Average hourly wages in 1973: $9.66. We have been going nowhere fast for a decade and a half.

WHAT HAPPENED TO GROWTH?



Much has improved over the past 15 years, but not our standard of living.

The news isn't totally bleak. A bigger fraction of the population works outside the home now, and nonwage income such as Social Security is up. That's why family income has stayed level while wages have declined. Income per person—as opposed to per family—is up too, partly because average family size is shrinking. Still, nobody doubts the underlying trend. "Family income grew very fast from the end of the Second World War to the first oil price shock, in 1973," says the University of Maryland's Frank Levy, a specialist in the subject. "It hasn't really grown since then. And wages, on average, have been stagnant."

Levy, whose book *Dollars and Dreams* has just been issued in paperback, argues that the stagnation in income levels has grim social consequences. In the 1950s and 1960s, as now, some groups in the population were always doing better than others; relative gains and losses are a part of any free-enterprise economy. But back then, the pie as a whole was expanding every year. So nearly everyone could count on an eventual improvement in their lot.

Today a bigger piece for one group over time means a smaller piece for someone else. Since 1973, for example, women's overall earnings have grown, and the earnings of college-educated women over 35 have grown the most. But young, male workers with no college have seen corresponding losses. "Back in the early 1970s the average 30-year-old guy with a high-school diploma was making $24,000 in today's dollars," Levy explains. "Today a similar guy is making about $18,000."

Nor can people necessarily count on a brighter future for their children. In 1969 the typical blue-collar worker was making more, in real terms, than an executive made 20 years earlier. So working-class parents could feel reasonably good about the prospects of sons and daughters who chose to pursue blue-collar careers. Today no one—not even economists such as Levy—can count on better times for his or her offspring. "I really don't know if my son will outearn me," he says.

Underlying the stagnant income figures is another, more puzzling number. Changes in productivity, or output per worker, show how we as a nation are doing, relative both to our own past and to other countries; in the long run, rising productivity is the only ticket to a rising standard of living for all. During the fat years—the 1950s and 1960s—productivity rose at better than a 3% annual clip, or 70% over the course of two decades. Since the early 1970s productivity growth has been sporadic, averaging 1% or so a year.

Economists can't yet offer us a comprehensive explanation of the productivity slowdown; what they can do is point to factors that undoubtedly contributed to it, such as the dramatic hike in oil prices during the 1970s and the sharp recession of 1981–82. One significant factor was simply the huge influx of new workers into the labor force. The baby boom alone would have flooded the economy with millions of new job seekers; the rising proportion of women working outside the home added to the number. As most business owners can testify, this influx of young and inexperienced workers lowered the average skill level of the labor force; it also tended to decrease the amount of capital equipment at each employee's disposal. Overall output, of course, rose. But output per employee grew much more slowly than it had in the past.

You can look back on the economy of the past 15 years and argue that its major task, so to speak, was to provide jobs for

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IN-5

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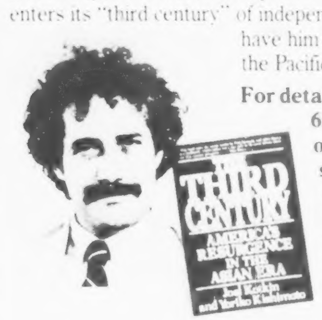
Is your company a global competitor?

It can be.

Cynics warn that American business is facing decline, but Joel Kotkin, co-author of *The Third Century: America's Resurgence in the Asian Era,* insists that our unique assets can help shape an industrial renaissance.

Kotkin, Inc.'s West Coast editor, offers a provocative rebuttal to predictions of economic doom. "Our wealth of resources, entrepreneurial drive and multi-ethnic labor force form the basis for a new American ascendency," says Kotkin.

Kotkin urges audiences to capitalize on these inherent strengths as America enters its "third century" of independence. You'll want to hear his views and have him answer your questions about meeting the Pacific Rim challenge.


THE THIRD CENTURY
AMERICA'S RESURGENCE IN THE ASIAN ERA
Joel Kotkin and Yoriko Kishimoto

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LIES, DAMN LIES, AND STATISTICS

Fortune's rose-colored glasses

For reasons best known to its editorial board, *Fortune* seems to want to persuade us that things have never been better. "Do We Live as Well as We Used To?" asked a cover story in late 1987 (answer: "vastly better"). "Are You Better Off Than in 1980?" wondered an article published a year later (answer: almost certainly).

It's reminiscent of the dictum, variously attributed to Mark Twain and Benjamin Disraeli: "There are three kinds of lies—lies, damn lies, and statistics." The problem isn't that the numbers aren't true; it's that you can make them say whatever you want to.

Sylvia Nasar's 1987 article, for example, compared family income levels in 1986 with what they were in 1960. Surprise! They're "half again as high." What the author doesn't mention is that *all* that growth took place between 1960 and 1973. Since 1973, median income has dropped, risen, dropped again, and risen again, leaving it right back where it began. Those fluctuations, in turn, made Louis S. Richman's job in the 1988 article easier. "Median family income . . . is well above its 1981 level," he wrote. True: it went up 10% from 1981 to 1987. But in 1981 it was slightly below the level of *1968*.

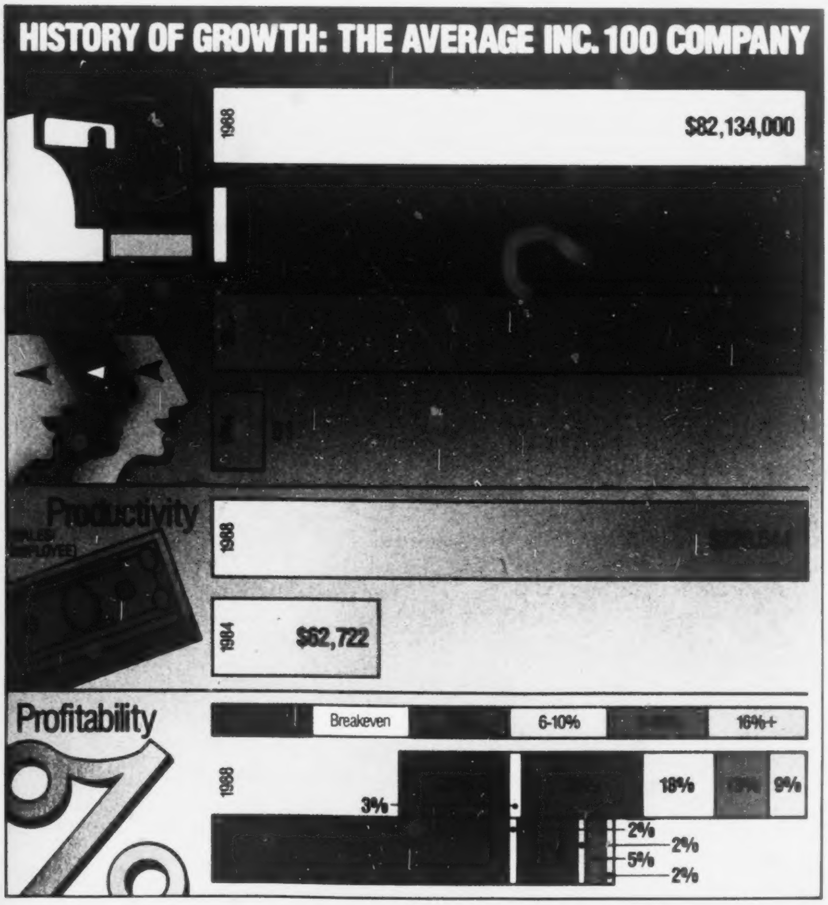
In a fast-changing economy like ours, there will always be winners and losers, and the two groups will have dramatically different perspectives on how well "everyone" is faring. But the bottom line for an economic system is its participants' average standard of living. By that measure, our fortune hasn't been so good.

all those new workers. Our system accomplished the task well, even though the nation's largest manufacturers were cutting back their employment. We would have had an economic disaster in the 1980s but for the enormous number of jobs generated by growing companies.

That achievement, however, shouldn't blind us to the stagnation in living standards during this period. Should the slowdown continue, we'll lose ground relative to nations (such as Japan) that are experiencing regular productivity gains. And voters on the losing side of the averages will rightly begin to wonder about an economy that provides a lot of jobs—but not much hope.

THE INC. 100

The 11th annual ranking of America's fastest-growing small public companies



HISTORY OF GROWTH: THE AVERAGE INC. 100 COMPANY

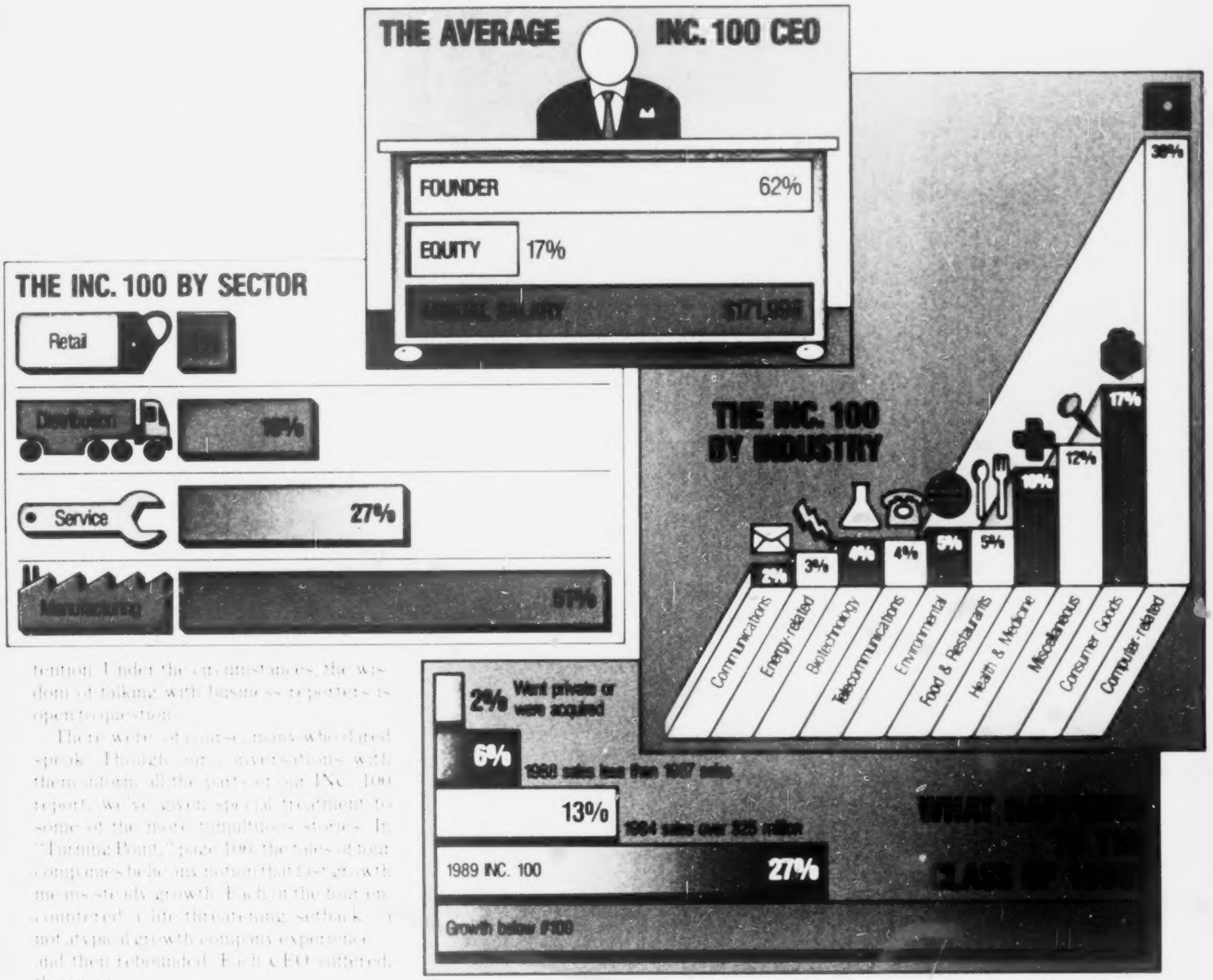
Work the INC. 100 beat long enough, and you can begin recycling the headlines.

Again, on this year's list, the average five-year growth rate of 3,731% approaches the incomprehensible—high enough to astonish (us) and to stagger (the companies that experience it). Again, it was harder to make the list than ever before; Intelligent Electronics Inc., #100, would have placed 93d last year and 54th as recently as five years ago. And again, just as it got tougher to appear on the list, it got tougher to make money on the way. Twenty-seven of this year's 100 are in the red, compared with 23 a year ago and 19 five years back.

But if the numerical trends in the 1989 ranking aren't new, there's something about working with the INC. 100 companies that is. Call it the Public-Company Publicity Paradox.

More so than in previous years, our routine phone calls to companies on the list unearthed some disquieting CEO nervousness. Several chief executives wouldn't talk to us at all; many others were unusually skittish about answering our questions. Why? Takeover fears, we were told. If these 100 businesses are representative, then small public companies are feeling more threatened than ever by unsolicited buyers.

Therefore, the paradox: while your average growth-company CEO needs to promote his historically undervalued company in order to pump its stock price, he now also fears publicity lest he attract takeover at-



tention. Under the circumstances, the wisdom of talking with business reporters is open to question.

There were, of course, many who dared speak. Though our conversations with them inform all the parts of our INC. 100 report, we've given special treatment to some of the more tumultuous stories. In "Turning Point," page 100, the tales of four companies belie any notion that fast growth means steady growth. Each of the four encountered a life-threatening setback—a not atypical growth company experience—and then rebounded. Each CEO suffered, then won.

We also spoke with this year's #1 company, Teradata Corp., and its CEO, Kenneth W. Simonds.

The Los Angeles high-tech manufacturer booked approximately $90 million in revenues last year by selling what it calls a database computer—an add-on that hooks up to a host computer to hold and process huge databases, like those of banks, airlines, and telephone companies. The company has exploited a prototypical information-age problem: databases that have become so big that keeping them on the mainframe itself would use an enormous portion of the machine's computing and storage capacity—its horsepower—and slow everything down. Teradata's competition? IBM.

The company's road to the top has been paved with venture capital gold. Between its 1979 founding and 1987, when it went public, Teradata raised a whopping $67 million in VC money through six rounds of financing. But even with all that money, things were not always easy for Teradata. "At the very beginning, there was a long and difficult period," says Simonds. "The company ranks among the top in the 1980s in terms of the amount of venture money received. And we were about six years getting the company to its first profitable quarter.

"We faced not knowing whether we'd be able to meet payroll two or three pay periods downstream, knowing that we had to complete one sale and get the money in, in order to keep things afloat," Simonds continues. "Even though we were continuing to work the next round of financing, it was never a *fait accompli* that we were going to get it."

Initial customer acceptance, Simonds says, was difficult to gain because of Teradata's tiny size. "I think potential customers knew that they had a problem we could help with. But they had to be confident that we had the staying power to bring the solutions that they were looking for.

"They were excited about the technology, but information is a major corporate asset. And they were hesitant to put that asset in the hands of a company that had never been profitable—and back then Teradata was doing $3 million or $4 million in revenues. Early on they would give us test applications to evaluate the technology—but also, I think, to evaluate us as a corporation."

Teradata, up to this point, has passed that external test.

Asked what questions preoccupy him today, Simonds cited internal ones—how to manage Teradata's expansion, how to handle people. It is a common refrain. Few of this year's CEOs seem concerned about the marketplace. They spoke instead, though not for Wall Street's ears, of fear and uneasiness with raging growth itself.

—*The Editors*

1989 RANK	COMPANY	1988 RANK	BUSINESS DESCRIPTION	SALES GROWTH: COMPOUND ANNUAL GROWTH	SALES GROWTH: DOUBLING TIME (WEEKS^d)	REVENUES ($000): 1988	REVENUES ($000): 1984
1.	**TERADATA** (Los Angeles, CA)		Mfrs. high-performance database mgmt. systs.	317%	25	$89,478	$296
2.	**OCTEL COMMUNICATIONS** (Milpitas, CA)		Mfrs. & mkts. voice-processing systs.	297	26	48,006	193
3.	**METAL BANC** (Miami, FL)		Wholesales precious metals	[illegible]	27	206,330	967
4.	**CENTEX TELEMANAGEMENT** (San Francisco, CA)		[illegible]	[illegible]	[illegible]	[illegible]	272
5.	**CONVEX COMPUTER** (Richardson, TX)		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6.	**SEQUENT COMPUTER SYSTEMS** (Beaverton, OR)		Mfrs. computer systs.	[illegible]	[illegible]	[illegible]	409
7.	**INTERLEAF** (Cambridge, MA)		[illegible]	[illegible]	[illegible]	[illegible]	319
8	**COMMODORE ENVIRON. SERVICES** (New York, NY)		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9	**NATIONWIDE CELLULAR SERVICES** (Valley Stream, NY)		[illegible]	[illegible]	[illegible]	[illegible]	298
10	**PENTECH INTERNATIONAL** (Edison, NJ)		[illegible]	[illegible]	[illegible]	[illegible]	106
11	**HEALTHSOUTH REHABILITATION** (Birmingham, AL)		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
12	**EVEREX** (Fremont, CA)		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
13	**ACTION AUTO RENTAL** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
14	**INTERNATIONAL BROADCASTING** (Minneapolis, MN)		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
15	**CMS ENHANCEMENTS** (Tustin, CA)		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
16	**ONE PRICE CLOTHING STORES** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
17	**ALTERA** (Santa Clara, CA)		[illegible]	[illegible]	[illegible]	[illegible]	282
18	**SAHLEN & ASSOCIATES** (Deerfield Beach, FL)	7	[illegible]	[illegible]	[illegible]	[illegible]	460
19	**EATERIES** (Oklahoma City, OK)		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20	**ENTERTAINMENT MARKETING** (Houston, TX)	1	[illegible]	[illegible]	[illegible]	[illegible]	1,619
21	**DIAGNOSTEK** (Albuquerque, NM)		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
22	**OSICOM TECHNOLOGIES** (Rockaway, NJ)	6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
23	**FRANKLIN TELECOMMUN.** (Westlake Village, CA)		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
24	**FIRST WORLD CHEESE** [illegible]	40	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
25	**ARIX** (San Jose, CA)		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26.	**BEAUTY LABS** (Lake Success, NY)		[illegible]	[illegible]	[illegible]	[illegible]	174
27	**HARKEN OIL & GAS** (Bedford, TX)	11	[illegible]	[illegible]	34	[illegible]	10,299
28.	**CANTERBURY EDUC. SERVICES** (Medford, NJ)	51	[illegible]	[illegible]	34	[illegible]	102
29.	**HOME SHOPPING NETWORK** (St. Petersburg, FL)	2	Televised specialty retailer	[illegible]	34	[illegible]	10,819
30.	**BRAJDAS** (Woodland Hills, CA)		Distr. electromechanical devices	[illegible]	34	[illegible]	[illegible]
31.	**AUTODESK** (Sausalito, CA)		Develops & mkts. design & drafting software	[illegible]	34	[illegible]	[illegible]
32.	**PACE MEMBERSHIP WAREHOUSE** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
33.	**CORPORATE SOFTWARE** (Westwood, MA)		[illegible]	[illegible]	[illegible]	[illegible]	1,698
34.	**TELEMATICS** (Fort Lauderdale, FL)	21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
35.	**NELLCOR** (Hayward, CA)		[illegible]	[illegible]	[illegible]	[illegible]	2,071
36.	**AMERECO ENVIRON. SERVICES** (Kingsville, MD)		Provides toxic & hazardous waste removal [illegible]	[illegible]	38	8,664	189
37.	**CASH AMERICA INVESTMENTS** (Fort Worth, TX)		Owns & operates pawnshops	158	38	67,500	1,515
38.	**CYPRESS SEMICONDUCTOR** (San Jose, CA)		Designs & mfrs. digital integrated circuits	156	39	139,388	3,246
39.	**VESTRO FOODS** (Newport Beach, CA)		Manages food distribution operations	153	39	16,000	393
40.	**AMERICAN POWER CONVERSION** (Peace Dale, RI)		Designs & mfrs. power supply prods.	152	39	17,360	431
41.	**READICARE** (Newport Beach, CA)		Operates outpatient medical centers	151	39	19,296	486
42.	**PHOTON TECHNOLOGY INT'L** (Princeton, NJ)		Mfrs. proprietary electro-optical systs.	149	40	5,424	141
43.	**SILK GREENHOUSE** (Tampa, FL)		Operates artificial flower & plant stores	149	40	21,710	567
44.	**ADOBE SYSTEMS** (Mountain View, CA)		Designs, develops, & mkts. graphic art software	148	40	83,483	2,209
45.	**AUTOMATED LANGUAGE PROC.** (Salt Lake City, UT)		Designs & mkts. software to translate languages	146	40	23,000	635
46.	**CLEOPATRA KOHLIQUE** (Freeport, NY)		Designs, formulates, & distr. women's cosmetics	145	40	5,648	158
47.	**DISCUS** (Bloomington, MN)		Develops & operates Fuddruckers restaurants	139	42	15,361	473
48.	**CHRONAR** (Lawrenceville, NJ)		Develops & sells photovoltaic panels & equip.	138	42	30,000^c	928
49.	**SELECTRONICS** (Minneapolis, MN)		Develops & mkts. hand-held computerized prods.	138	42	10,009	310
50.	**MAGIC YRS. CHILD CARE & LEARN. CTRS.** (Plains, PA)		Operates child care & learning centers	138	42	6,300^c	197

c: company estimate. d: average time for revenues to double given sales growth from 1984-1988. i: INC. estimate. 9: nine-month figure. '87: 1987 salary. NA: not available.

NET INCOME ($000) 1988	NET INCOME ($000) 1984	NO. EMPLOYEES 1988	NO. EMPLOYEES 1984	YEAR FOUNDED	NO. ACQUISITION	CEO	CEO SALARY	CEO FOUNDER	CEO EQUITY (%)
$13,510	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Kenneth W. Simonds	$331,000	N	[illegible]
6,910	[illegible]	486	[illegible]	[illegible]		Robert Dill	207,292	Y	6.9
[illegible]	[illegible]	[illegible]		[illegible]		Howard M. Lockett	125,000	Y	[illegible]
4,762	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	N	[illegible]
6,101	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	Y	4.0
6,400	[illegible]	[illegible]	[illegible]	[illegible]		[illegible] Power	150,000	Y	2.8
6,980	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	Y	4.8
(6,634)	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	N	[illegible]
(3,104)	[illegible]			[illegible]		[illegible]	[illegible]	Y	[illegible]
1,928	[illegible]			[illegible]		[illegible]	125,000	Y	40.0
[illegible]	[illegible]			[illegible]		[illegible]	[illegible]	Y	[illegible]
[illegible]	[illegible]			[illegible]		[illegible]	[illegible]	Y	[illegible]
[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	Y	[illegible]
[illegible]	[illegible]			[illegible]		[illegible]	[illegible]	Y	[illegible]
[illegible]				[illegible]		[illegible]	[illegible]	Y	
6,184	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	Y	[illegible]
1,067	[illegible]	[illegible]		[illegible]		[illegible]	150,000	N	4.4
1,934	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	Y	5.0
(409)	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	Y	[illegible]
(10,226)	[illegible]	[illegible]		[illegible]		[illegible]	84,000	Y	[illegible]
[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	Y	[illegible]
[illegible]	[illegible]			[illegible]		[illegible]	[illegible]	Y	
[illegible]			[illegible]	[illegible]		[illegible]	[illegible]	Y	[illegible]
1,500	[illegible]			[illegible]		[illegible]	[illegible]	Y	34.0
[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]	N	[illegible]
164	[illegible]	114	[illegible]	[illegible]		[illegible]	[illegible]	Y	[illegible]
6,000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	N	[illegible]
199	54	191	4	[illegible]	[illegible]	[illegible]	90,503	Y	24.0
17,982	359	[illegible]	104	[illegible]	[illegible]	Roy M. Speer	400,000	Y	60.0
1,861	(1,254)	[illegible]	[illegible]	[illegible]	[illegible]	Donald Zimmerman	0	N	58.0
20,541	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	N	[illegible]
7,677	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	N	[illegible]
3,053	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	98,000	[illegible]	[illegible]
5,884	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	195,730	Y	[illegible]
10,540	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	150,000	Y	4.3
(237)	0	100	6	1983	[illegible]	Dennis Nix	104,200	Y	32.0
5,087	(177)	[illegible]	30	[illegible]	[illegible]	Jack R. Daugherty	183,500[8]	Y	4.0
20,829	(9,702)	[illegible]	199	1982	[illegible]	T. J. Rodgers	222,877	Y	1.5
0	(765)	155	8	1947	2	Alfred Stogoff	150,000	N	13.9
2,786	12	130	8	1981	0	Roger B. Dowdell Jr.	80,228	N	15.8
1,604	(1,786)	455	50	1982	3	[illegible]	140,000	Y	9.0
(2,266)	(174)	60	10	1983	[illegible]	Charles S. Marianik	108,500	Y	40.0
1,343	22	900	30	1982	1	Jere [illegible] Brabwell	132,400	Y	22.0
21,080	58	291	21	1982	1	John E. Warnock	244,200	Y	3.8
(1,889)	(5,951)	515	53	1980	5	A. T. Zirkle	150,000	N	4.0
(745)	30	41	3	1983	0	Michael Mintz	150,000	Y	17.6
(30)[9]	(354)	310	45	1983	0	Michael Platt	100,000	Y	22.6
(1,100)[9]	(2,635)	275	50	1976	1	Zolton Kiss	140,000	Y	14.0
797	(150)	28	2	1983	0	Mike Weiner	125,000	N	14.0
650	(69)	550	33	1983	10	William Grant	50,000	Y	5.0

1989 RANK	COMPANY	1988 RANK	BUSINESS DESCRIPTION	SALES GROWTH COMPOUND ANNUAL GROWTH	SALES GROWTH DOUBLING TIME (WEEKS*)	REVENUES ($000) 1988	REVENUES ($000) 1984
51	**TEXCEL INTERNATIONAL** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	$896
52	**CALIFORNIA ENERGY** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	418
53	**INTERSPEC** [illegible]	24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
54	**XYVISION** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
55	**SILICONGRAPHICS** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
56	**SIGMA DESIGNS** [illegible]	27	[illegible]	[illegible]	[illegible]	[illegible]	1,641
57	**OXFORD ENERGY** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
58	**LANDMARK GRAPHICS** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
59	**NOVA PHARMACEUTICAL** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
60	**NEECO** [illegible]	63	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
61	**MEDIVIX** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
62	**L.A. GEAR** [illegible]	90	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
63	**MEASUREMENT SPECIALTIES** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
64	**BABBAGES** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
65	**NEOTERIK HEALTH TECH** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
66	**DIAGONAL DATA** [illegible]	81	[illegible]	[illegible]	[illegible]	[illegible]	334
67	**RAINBOW TECHNOLOGIES** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
68	**TECH DATA** [illegible]	44	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
69	**WHOLESALE CLUB** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
70	**OLYMPIA BROADCASTING** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
71	**MED CHEM PRODUCTS** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
72	**ELEXIS** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
73	**BALLARD MEDICAL PRODUCTS** [illegible]	18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
74	**ORACLE SYSTEMS** [illegible]	56	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
75	**DOMAIN TECHNOLOGY** [illegible]	5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
76	**JACOR COMMUNICATIONS** [illegible]	68	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
77	**CERNER** [illegible]	60	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
78	**CALGENE** [illegible]	70	[illegible]	[illegible]	[illegible]	[illegible]	1,264
79	**OCCUP-URGENT CARE HEALTH** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	568
80	**VIPONT PHARMACEUTICALS** [illegible]	10	[illegible]	[illegible]	[illegible]	[illegible]	1,742
81	**AMERICAN MOBILE SYSTEMS** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
82	**QUIPP** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
83	**PHOENIX TECHNOLOGIES** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
84	**INDEX TECHNOLOGY** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
85	**MILLS-JENNINGS** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
86	**CLEAN HARBORS** [illegible]	69	[illegible]	[illegible]	[illegible]	73,514	4,209
87	**SELVAC** [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	341
88	**IMMUCELL** [illegible]		[illegible]	[illegible]	[illegible]	2,016	116
89	**PC QUOTE** [illegible]	98	[illegible]	[illegible]	[illegible]	7,000	405
90	**CONFERTECH INTERNATIONAL** [illegible]		[illegible]	[illegible]	[illegible]	6,000	355
91	**MAXTOR** [illegible]		[illegible]	[illegible]	52	[illegible]	16,465
92	**NOVELL** [illegible]	41	[illegible]	[illegible]	52	281,150	17,439
93	**EL POLLO ASADO** [illegible]		[illegible]	[illegible]	52	13,078	814
94	**LIFECORE BIOMEDICAL** [illegible]		[illegible]	100	52	3,566	222
95	**ENCORE COMPUTER** (Marlborough, MA)	16	[illegible]	100	52	34,409	2,165
96	**CATALINA LIGHTING** (Miami, FL)		Imports & distr. lighting & ceiling fans	99	52	26,922	1,701
97	**SYSTEM SOFTWARE ASSOCIATES** (Chicago, IL)	23	Develops & mkts. business application software	98	53	61,525	3,972
98	**KIMMINS ENVIRONMENTAL SERVICE** (Tampa, FL)		Provides comprehensive environ. svcs.	97	53	78,000	5,144
99	**FLOWMOLE** (Kent, WA)		Installs & replaces underground cables & pipes	97	53	25,669	1,697
100	**INTELLIGENT ELECTRONICS** (Exton, PA)	48	Distr. microcomputers through franchises	97	53	128,994	8,563

c: company estimate; *: average time for revenues to double, given sales growth from 1984–1988; [illegible] INC. estimate; [illegible] nine-month figure; [illegible] 1987 sales; NA: not available

NET INCOME ($000)		NO. EMPLOYEES		YEAR FOUNDED	NO. ACQUISITION	CEO	CEO SALARY	CEO FOUNDER	CEO EQUITY (%)
1988	1984	1988	1984						
[illegible]	[illegible]	[illegible]	6	1978	2	Aron Govil	$155,000	N	40.0%
[illegible]	[illegible]	[illegible]	30	1971	0	Charles T. Condy	240,000	Y	17.0
[illegible]	[illegible]	[illegible]	60	1979	2	Edward Ray	241,420	Y	6.0
[illegible]	[illegible]	[illegible]	[illegible]	1982	1	Laurence S. Liebson	141,269	Y	6.7
[illegible]	[illegible]	[illegible]	[illegible]	1981	0	Edward R. McCracken	300,000	N	2.0
[illegible]	[illegible]	[illegible]	19	1982	0	Thinh Q. Tran	77,000	Y	9.1
[illegible]	[illegible]	[illegible]	5	1984	6	Robert D. Colman	178,000[87]	Y	8.0
[illegible]	[illegible]	[illegible]	48	1982	1	C. Eugene Ennis	99,000	N	2.8
[illegible]	[illegible]	[illegible]	45	1982	1	Hans Mueller	NA	N	1.0
[illegible]	[illegible]	[illegible]	35	1982	1	Robert J. Crowell	118,000	Y	12.4
[illegible]	[illegible]	[illegible]	[illegible]	1982	2	Rehavam Adiel	0	N	20.0
[illegible]	[illegible]	[illegible]	[illegible]	1979	0	Robert Y. Greenberg	285,581	Y	29.9
[illegible]	[illegible]	[illegible]	[illegible]	1981	0	Donald Weiss	82,741	Y	21.6
[illegible]	[illegible]	[illegible]	[illegible]	1983	0	James McCurry	150,000	Y	9.0
[illegible]	[illegible]	[illegible]	[illegible]	1981	0	Kenneth V. Vaughan	86,250	Y	15.0
[illegible]	[illegible]	[illegible]	[illegible]	1981	3	Frank M. Foster	90,000	Y	39.9
[illegible]	[illegible]	[illegible]	2	1982	0	Walter W. Straub	88,000	Y	15.1
[illegible]	[illegible]	436	35	1974	0	Steven A. Raymund	450,000	N	24.0
[illegible]	[illegible]	[illegible]	300	1982	0	John F. Geisse	152,504	Y	13.0
[illegible]	[illegible]	[illegible]	70	1984	11	James Ireland	150,000	Y	18.1
[illegible]	[illegible]	[illegible]	[illegible]	1970	1	David A. Swann	203,729	Y	10.5
[illegible]	[illegible]	[illegible]	20	1980	1	Frank J. Bianco	70,000	Y	10.0
[illegible]	[illegible]	[illegible]	47	1978	0	Dale H. Ballard	126,585	Y	21.4
[illegible]	[illegible]	[illegible]	153	1977	1	Lawrence J. Ellison	1,362,500	Y	28.4
[illegible]	[illegible]	884	124	1981	0	David Pearce	165,000	N	4.0
[illegible]	[illegible]	750	170	1979	15	Terry S. Jacobs	325,000	Y	16.0
[illegible]	[illegible]	[illegible]	57	1980	0	Neal Patterson	115,500	Y	14.0
[illegible]	[illegible]	279	100	1980	4	Roger H. Salquist	125,865	N	4.0
[illegible]	[illegible]	[illegible]	21	1982	1	James W. Cameron Jr.	122,100[F]	Y	26.0
[illegible]	4,908	[illegible]	45	1968	0	Lawrence L. Frederick	121,600	N	3.4
[illegible]	[illegible]	[illegible]	17	1982	4	William T. Young	150,000	Y	14.0
[illegible]	[illegible]	[illegible]	20	1983	0	James Quakenbush	75,000	Y	11.0
[illegible]	[illegible]	[illegible]	13	1979	3	Neil J. Colvin	287,397	Y	36.5
[illegible]	[illegible]	[illegible]	48	1983	1	Richard A. Carpenter	214,184	Y	8.0
[illegible]	[illegible]	[illegible]	5	1970	8	David J. Smith	160,000	N	12.4
[illegible]	[illegible]	[illegible]	34	1980	3	Alan S. McKim	225,000	Y	71.0
[illegible]	[illegible]	[illegible]	12	1982	1	Allan Borkowski	75,000	Y	15.0
[illegible]	[illegible]	25	5	1982	1	Thomas G. Adelman	75,000	Y	9.5
[illegible]	[illegible]	60	10	1980	0	Louis Morgan	0	Y	12.0
[illegible]	[illegible]	70	10	1976	2	H. Robert Gill	98,782[87]	N	7.0
[illegible]	[illegible]	[illegible]	458	1982	2	George M. Scalise	320,000	N	0.0
[illegible]	[illegible]	[illegible]	80	1983	3	Raymond Noorda	NA	Y	16.7
[illegible]	[illegible]	[illegible]	15	1983	0	Richard Lipson	90,000	Y	16.0
[illegible]	[illegible]	[illegible]	[illegible]	1965	1	James W. Bracke	75,065	N	0.5
[illegible]	[illegible]	250	50	1983	1	Kenneth Fisher	100,000	Y	18.0
1,064	15	35	8	1974	1	David Moss	284,134	Y	43.4
6,248	553	286	15	1981	3	Roger E. Covey	150,000	Y	35.0
2,400	256	700	250	1919	1	Francis M. Williams	50,000	N	65.6
[illegible]	[illegible]	[illegible]	29	1982	0	John R. Potter	148,712	N	0.0
[illegible]	[illegible]	[illegible]	98	1982	0	Richard D. Sanford	197,105	Y	32.9

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HOW THE INC. 100 ARE SELECTED

The 1989 INC. 100 is the 11th annual ranking of the 100 fastest-growing publicly held companies in America. Companies are ranked by the percentage increase in total revenues (or net sales) between 1984 and 1988. This year the chart (see page 96) shows compound annual growth and the doubling time.

■ To be considered for the INC. 100, each company must meet the following criteria:

1. The company is an independent corporation, not a subsidiary or division of another company. Regulated banks and utilities and holding companies are excluded.

2. The company was publicly held before the end of fiscal year 1988.

3. The company shows an operating/sales history of at least five years.

4. The company's 1988 sales exceeded 1987 sales. Companies with growth over the five-year period but a decline in 1988 sales are excluded.

5. The company's 1984 revenues were at least $100,000, but not more than $25 million.

■ The INC. 100 research staff used company prospectuses, 10-Ks, and annual reports to maintain the in-house database of publicly held smaller companies. Using audited financial statements, researchers then ranked the companies.

■ An editorial team led by special projects editor Sara Baer-Sinnott and assistant research editor Deborah L. Weeks selected the 1989 INC. 100. The research was conducted by researchers Mary Harbaugh, Ann Mueller, and Julie Rasicot, and interns Dan Bowman, Susan Doherty, Kira Jacobs, Sarah Lang, Christine Muri, Erin McPherson, and Beth Watson.

INC. 100 INDEX

Company rank

Action Auto Rental	13
Adobe Systems	44
Altera	17
AmerEco Environ. Svcs.	36
American Mobile Systems	81
American Power Conversion	40
Arix	25
Autodesk	31
Automated Language Processing Systems	45
Babbages	64
Ballard Medical Products	73
Beauty Labs	26
Brajdas	30
Calgene	78
California Energy	52
Canterbury Educational Svcs.	28
Cash America Investments	37
Catalina Lighting	96
Centex TeleManagement	4
Cerner	77
Chronar	48
Clean Harbors	86
Cleopatra Kohlique	46
CMS Enhancements	15
Commodore Environmental Services	8
ConferTech International	90
Convex Computer	5
Corporate Software	33
Cypress Semiconductor	38
Diagnostek	21
Diagonal Data	66
Discus	47
Domain Technology	75
Eateries	19
Elexis	72
El Pollo Asado	93
Encore Computer	95
Entertainment Marketing	20
Everex	12
First World Cheese	24
FlowMole	99
Franklin Telecommunications	23
Harken Oil & Gas	27
Healthsouth Rehabilitation	11
Home Shopping Network	29
ImmuCell	88
Index Technology	84
Intelligent Electronics	100
Interleaf	7
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Interspec	53
Jacor Communications	76
Kimmins Environmental Svc.	98
L.A. Gear	62
Landmark Graphics	58
LifeCore Biomedical	94
Magic Years Child Care & Learning Ctrs.	50
Maxtor	91
Measurement Specialties	63
Med Chem Products	71
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Metal Banc	3
Mills-Jennings	85
Nationwide Cellular Services	9
Neeco	60
Nellcor	35
Neoterik Health Technologies	65
Nova Pharmaceutical	59
Novell	92
Occupational-Urgent Care Health Systems	79
Octel Communications	2
Olympia Broadcasting	70
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Oracle Systems	74
Osicom Technologies	22
Oxford Energy	57
PACE Membership Warehouse	32
PC Quote	89
Pentech International	10
Phoenix Technologies	83
Photon Technology Int'l	42
Quipp	82
Rainbow Technologies	67
Readicare	41
Sahlen & Associates	18
Selectronics	49
Selvac	87
Sequent Computer Systems	6
Sigma Designs	56
SiliconGraphics	55
Silk Greenhouse	43
System Software Associates	97
Tech Data	68
Telematics	34
Teradata	1
Texcel International	51
Vestro Foods	39
Vipont Pharmaceuticals	80
Wholesale Club	69
Xyvision	54

TURNING POINT

It's hard to imagine that companies growing between 97% and 317% a year for five straight years—as the members of this year's INC. 100 did—have ever known hard times. Such companies must be blessed, we think. They must each have found the right market at the right time, and then exploited it in the right way. A graph of their monthly sales must look like one smooth, steep, blood-thinning ascent. But the truth is different. As sometime INC. columnist and growth-company observer David L. Birch has pointed out, even the most successful companies don't climb uninterruptedly upward. They're volatile. Among their peaks are valleys. Sometimes the valleys are bad.

BY JAY FINEGAN

When Your Sales Staff Defects

It took place nearly seven years ago, but Steven Raymund remembers the scene as if it was yesterday. He chanced to come by the office one Saturday in late summer only to see the company's best salespeople huddled around the copying machines, working frantically. On a weekend? That's odd, he thought.

Then 26, having taken the title of operations manager only a month or so earlier, Raymund didn't ask any questions. "It never even occurred to me that they might be copying proprietary records of the corporation," he says. "But that's what they seemed to be doing: copying all the customer records and vendor information."

When he came to work Monday, on his desk were letters of resignation from five of the company's eight salespeople, the backbone of the field force. Raymund came to think of this episode of corporate treachery as "the palace revolt." And he played the role of crown prince.

Tech Data Corp. was a distribution company, selling computer supplies to large end-users in central Florida—hospitals, government agencies, and the like. Edward Raymund, Steve's father, started the company in 1974, and by 1982, the year of the rebellion, sales were running about $2 million a year.

COMPANY: Tech Data Corp., Clearwater, Fla.
RANK: #68
FOUNDED: 1974
SALES: $149.1 million
PROFITS: $4.2 million
BUSINESS: Distributes microcomputers and related peripheral products
CEO: Steven A. Raymund
AGE: 33

Steve had gone off to the University of Oregon for an economics degree, following up at Georgetown University's School of Foreign Service. He then did a brief stint on the South American loan desk at Manufacturers Hanover Trust Co., in New York City. "I came back to Florida just to prepare a résumé," he says. "I wanted to get into international economic development. My father was getting interested in catalog sales, and he asked me to put together a catalog. That piqued my interest in the company, but I had no plans to work there indefinitely."

Steve's appearance on the scene did not go unnoticed by the sales team. Ed Raymund, increasingly devoted to his other company, Tech Rep Associates, was spending about one day a week at Tech Data. The salesmen, Steve says, "had not unrealistic expectations that they might be able to purchase the business from my father." But as Steve moved deeper into the operation, publishing the catalog and gradually taking charge, the salesmen grew restive.

Seeing their buyout hopes eroding as the heir apparent eased into power, the five salesmen fled with copies of the files to a competitor in Tampa. "I could have been a saint, I think, and there would have been resentment," Raymund says. "I was an obstacle between them and their goals. I just had no idea how duplicitous some people can be. There had been no grumbling, as far as I knew, before they quit. We were caught broadside."

It wasn't long before the company felt the impact. "Our customers suddenly weren't calling much anymore," Raymund says. He considered legal action against the traitors, but decided against it. "You need at least one deep pocket, and I don't think any of them had much money," he says. "Plus, I didn't think we had enough money to vigorously press a lawsuit."

Nor did he have money to replace the sales force. "Field salespeople typically earn more, and cost the company more, than inside salespeople, and we couldn't afford to hire new ones," he goes on. "Their commissions were on the order of 40% of gross profit. That was part of the reason the business wasn't going anywhere—it was being plundered by the salesmen."

But the turncoats had left behind a more troublesome legacy. By 1980 personal computers had arrived on the scene. Ed Raymund tried to expand his two-person telemarketing team to handle microcomputer supplies. That effort had been sandbagged by the field sales force. "They viewed it as a threat that might eclipse their importance to the company," Steve Raymund says. "These were professional, charismatic people, and they ended up dictating the focus of the company: large institutional sales. They had a strong grip on the customers and in turn a strong grip on my father. When they left, the customers left with them."

In the wake of the uprising, Tech Data's sales spiraled swiftly downward, from $200,000 a month to less than half that. The ledger edged into the red. Ed Raymund, already pained by the betrayal, considered shutting down the company. "He had another, very successful business that didn't cause him any headaches," Steve says. "And here's this one costing him a lot of money. We were borrowing money, and he was personally on the hook for it. We were really in jeopardy of going out of business."

Until this point, Steve says, he hadn't felt much emotional commitment to the business. But now, presented with a challenge, he concentrated on bringing the company back to life. He wanted to have a go at a rescue operation. And with his father's guidance, he set a recovery in motion.

RICK FERRO BLACK STAR

"We began to explore very aggressive telemarketing to dealers as well as end-users," he explains. "We hired a few telemarketing people very quickly. We started buying mailing lists, calling people, and sending out the catalog. We also ran ads in some of the computer trade magazines. We were able to recruit a pretty healthy number of dealers through that process."

'We had to resurrect a new company from the ashes. Had the incident not occurred, I don't know if we'd have had the impetus to explore other avenues for growth.'
STEVE RAYMUND, TECH DATA

Over the next 18 months, Tech Data withdrew completely from the end-user market. "As we resurrected a new company from the ashes, it forced us to reevaluate our business and go in a different direction," Steve remembers. "Had this incident not occurred, I don't know if we would have had the impetus to explore other avenues for growth. It was a hard, nasty push off the bicycle. The bicycle got broken, and we had to find a new one. Fortunately there was lots of action in the microcomputer market at the time."

By mid-1983 the turnaround was in full swing. Tech Data started moving into PC products—disk drives, printers, keyboards, and the like. "By the middle of that year, we were making money again," Steve says, "and I purchased a majority share of the company."

Today, with 10 distribution facilities from coast to coast, 430 employees, and fiscal 1989 sales of $245 million, CEO Steve Raymund no longer needs to revise his résumé. As for Tech Rep Associates, Ed Raymund sold that two years ago. Ironically, it was purchased by his employees.

When Your IPO Is Shelved—and the Money's Already Spent

It was in the summer of 1982 that Terry S. Jacobs began to fear that his dream might come apart. Then 40, Jacobs just a year earlier had abandoned a six-figure salary in the insurance industry to become an entrepreneur. "Starting your own company is a way to get to the top in a hurry," he says. "*If* it works."

An actuary by training, he had become intrigued by the broadcasting business. His former employer, American Financial Corp. (AFC), had invested in John Kluge's Metromedia Inc., and Jacobs watched as Metromedia stock soared from $5 a share to $550 before splitting 10 for one. Kluge then took it private, and by selling off pieces he became a billionaire.

COMPANY: Jacor Communications Inc., Cincinnati
RANK: #76
FOUNDED: 1979
SALES: $78.5 million
PROFITS: ($6.2 million)
BUSINESS: Owns and operates radio stations
CEO: Terry S. Jacobs
AGE: 46

"That got my attention," Jacobs says. "As I started researching, I noticed that broadcasting always placed in the top five in profit growth, revenue growth, and return on equity in industry group rankings. I had always wanted to do something on my own, and this was a business where you could start small and grow into a big company. Lots of people had done it."

And so in January 1981 Jacobs bid farewell to AFC to try his hand at radio. He put together $1.9 million—$600,000 from savings and friends and $1.3 million

ANDY SNOW/PICTURE GROUP

from the Bank of America—and purchased three small religious-programming stations, in Cincinnati, Baltimore, and Toledo. Religious stations, he explains, are less expensive and less complicated to run than mainstream operations, a good place for a newcomer to cut his teeth.

With interest rates topping 20% in those days of galloping inflation, Jacobs found he needed to raise more capital quickly to pay down his bank debt. Although the economy was in recession, he decided on an initial public offering of some 1.1 million shares of his fledgling firm, Jacor Communications Inc. He selected the New York City investment banking outfit of D. H. Blair to underwrite the deal. "This was in the spring of 1982," Jacobs says. "It took a while to get a small company like ours in a legal and financial position to go public. You need three years of prior audits, and we had to go back and put together financials on stations we hadn't owned three years earlier, and that was real difficult. We didn't have much money, but we spent most of what we had on lawyers and on getting the prospectus written and printed."

Meanwhile, the recession deepened. And that summer, lacking confidence that it could accomplish the deal, Blair informed Jacobs that it was going to put the IPO "on the shelf" and wait for better timing. Markets would improve, Blair predicted, in nine months.

But Jacor couldn't wait nine months. "We had used most of our capital getting ready for the IPO, and we couldn't borrow any more," Jacobs recalls. "And if we couldn't raise any equity money, we'd be out of business by then." The company was losing $50,000 a month—half of it to interest payments—and had a cash cushion of just $270,000. "So we had no choice but to go forward."

'There was this constant fear that this might not work and I might lose everything. You can never relax. The business is always on your mind.'
TERRY S. JACOBS, JACOR COMMUNICATIONS

Jacobs found a small Cincinnati brokerage house called Blank, Conger & Sena that was willing to bet on him, putting its name on the prospectus. Lacking size and marketing muscle, however, the brokers were unable to sell much of the stock. The markets were impossible. Instead, it fell to Jacobs himself to perform what he calls a self-underwrite. "This was the most critical period in the life of Jacor," he says, "but I absolutely refused to give up on my dream."

Jacobs quickly borrowed $350,000 to buy a third of the stock himself. "I found a nice, friendly bank that was willing to loan it to me," he says, "but I had to pledge everything, including my kids, the future of the company, and my house. I was the first purchaser because I felt it was important, when I was going around trying to sell the stock, that people know that I had already stepped up and put my money in, that I was a believer. I thought that would be an inducement for other people to do it."

Then he hit the road. He went to New York City and knocked on every door where he might possibly get an appointment, all the small and midsize brokerage firms. He traveled to Atlanta, Chicago, Pittsburgh, Phoenix, and Denver, anywhere he could find regional investment houses. "Most were names I'd never heard of and haven't heard of since," he says with a laugh. "I'd be ashamed to show you the places that wouldn't even let me in the door."

It didn't help, he admits, that the prospectus was one big risk factor. "If you looked at it, you would not have bought the stock. I was selling a dream, really. I kept getting the same question—what was an actuary, a financial guy, doing trying to operate a broadcasting business? My reply was that management skills transfer between industries, and that as long as you know what you don't know, you can find people who do know it. That was a constant battle. I ran into literally hundreds of people who said, 'You'll never make it—this company won't be around next year.' It was tough to get anyone to believe in me."

Undaunted by the skepticism of the investment firms, Jacobs tried another tack. "I met with a lot of individual investors to try to convince them to buy some stock," he says. "I was introduced to them by friends and friends of friends. I did anything I could think of, including calling people cold. It was the toughest selling job I think anybody could have done, trying to sell shares in a company that owned very small stations, with no good prospects of becoming a big broadcasting company."

Back home in Cincinnati, Jacobs liquidated almost everything he owned except Jacor stock and put it all into the company. His wife, Susan, and their three children, long accustomed to his six-figure salary, were reduced to a Spartan budget—no vacations, no new cars or new clothing. There was money for bare necessities only—groceries and mortgage payments.

"My wife thought I was nuts when I left AFC making the kind of money I was making, and now I wasn't making anything," he says. "In fact, I was loaning money to the company out of my own savings and investments. So we went from having all the money we could spend to not having much to spend at all. Fortunately the kids were not yet in college."

The pressure was tremendous. "There was this constant fear that this might not work and I might lose everything," he recalls. "You can never be comfortable, you can never relax, the business is always on your mind. I went through periods of not sleeping very well, which created health problems."

(continued)

Time was running out. Under the terms established for the IPO, Jacor had set a "best efforts" minimum sale of $1.1 million. The Securities and Exchange Commission allowed 90 days to complete an S-18 filing, permitting one 30-day extension. Jacobs had taken the extension. And it was only at 5:00 p.m. on November 4, 1982, the very last day, that he got the part that put him over the hump, a $50,000 sale to a private investor.

"That $1.1-million offering netted us just over $800,000, because we had huge expenses," Jacobs says. "But it allowed us to pay down our bank debt by $500,000. It also allowed us to go out and buy another station, in a little bigger market. That station made some money. So we could then do another public offering—a real public offering—in October 1983."

That one brought in $3.5 million, netting $3.1 million. Jacobs paid off the rest of his bank debt and was able to buy his first major station, an AM-FM combination in Jacksonville, Fla., in May 1984. "The Jacksonville buy was critical," he says, "because had those stations not performed well we probably would have gone under."

But they prospered, and with new cash flow and added borrowing capacity, Jacor began an impressive acquisition spree. Over the next few years, it added stations in Cleveland, Atlanta, Cincinnati, Nashville, Knoxville, Tampa, and Denver, where its big-signal KOA-AM is "the voice of the Denver Broncos." The biggest of these purchases came in 1985—a three-station deal in Atlanta including WPCH, an easy-listening station. That involved a $20-million private placement with Shearson Lehman Brothers. "By then, New York investment bankers were coming to us without my going and begging," Jacobs says. He's already been offered more than $70 million for the Atlanta property—not a bad return in less than four years.

No, money isn't really a big problem for Terry Jacobs anymore. Company revenues have escalated from $896,000 in 1981 to $78.5 million in 1988. This year marks Jacor's fourth straight appearance on the INC. 100. And Jacobs enjoys encountering those doubters he met during the dark days of 1982. "I take great pride in showing them that not only did we make it, we are now the 13th largest radio broadcasting company in the United States."

When Your Only Customer Goes Belly-up

COMPANY: Neoterik Health Technologies Inc., Woodsboro, Md.
RANK: #65
FOUNDED: 1981
SALES: $6.5 million
PROFITS: ($39,000)
BUSINESS: Manufactures industrial respirators
CEO: Kenneth Vaughan
AGE: 49

Imagine for a moment that you've left a good job with a big corporation to start your own company. A year later you have a great product and an order worth $360,000. Now, imagine that the customer—your one and only—runs into serious trouble, leaving you with an uncollectible receivable of $150,000. You owe suppliers $80,000, but you have no money. Your life savings are gone. Your company, your hopes—they all lie on the brink of ruin. If you can imagine all that, you know how Kenneth Vaughan felt six years ago, when a spot on the INC. 100 looked as distant as another galaxy.

A Welshman, Vaughan came to the United States with Racal Corp., a British defense contractor, and he rose to the post of general manager of Racal's U.S. safety company. But in 1981, yearning for a business of his own, Vaughan left Racal to set up shop in the basement of his house an hour north of Washington, D.C.

Then 41, degreed in electrical and mechanical engineering as well as mathematics, he had spied a niche in the hazardous environment-respirator business. Battery-powered industrial respirators were made chiefly by 3M, Mine Safety Appliances, and Racal itself. "These were specialized items, marketed and priced accordingly," Vaughan says. "The other manufacturers wanted to add more bells and whistles to further drive up the price. I saw the opportunity to provide a low-cost alternative."

With $120,000 in savings and outside investment, Vaughan and his partner, engineer James R. Wiggins, established Neoterik Health Technologies Inc., derived from a Latinate word meaning "modern." By early 1982 they had their first product, and the company sold its first batch—several hundred respirators for radiation-detection workers—to Three Mile Island, the infamous nuclear power plant in Pennsylvania.

Searching for distributors that autumn, Vaughan came across the owner of Portable Air Supply Systems Inc., a Cleveland wholesaler. "I liked this guy," he recalls. "He had a lot of money behind him. He was in the same kind of industry we are in. Our product and the one he wanted to make—a bottled air respirator—would not compete with each other, but they were for the same kind of users and distributors.

"He was getting ready to hire eight or nine salespeople but didn't yet have a product. On our side, we had a product but essentially no resources. What we needed was time to concentrate on design and perfect our manufacturing processes. So we agreed to sell our products exclusively through this wholesaler, who would become our sales and marketing representative."

Portable Air contracted to buy at least $30,000 worth of Neoterik's product each month, about 150 respirators, and Vaughan eliminated the need to establish an in-house sales staff. He was quite pleased. The deal "was an easy way to ensure that we brought in some money," he says. "The surface analysis indicated this was a good thing to do." And for six months the arrangement worked beautifully. In the late summer of 1983, however, it disintegrated. The principals of Portable Air had run into financial and legal difficulties.

"In a matter of 10 days," Vaughan says, "I realized something was seriously wrong. We had a receivable from them of nearly $150,000, because they were running us about 90 days late. They were our only customer, and now there was no way they could pay us. So suddenly we had no cash and no salespeople. What we did have was $80,000 worth of payables. Having used up our start-up cash and our $70,000 credit line, we were essentially bankrupt."

Vaughan and Wiggins sat down stunned, angry, and bewildered. Are we in this business or are we out? they asked themselves. Vaughan wanted to hang tough, but he also had his family to consider. His wife, Jolanta, was a homemaker; they had two young children. "I had to go to her and say, 'Look, there is no paycheck,' " Vaughan remembers. "I involved her in the whole process. We decided to draw no money whatsoever, but just knuckle down and see if we could turn this around."

Like many a strapped entrepreneur before him, Vaughan stripped the family budget to a war footing. There would be no money for new clothes or frills. A $6,000 savings account was earmarked for mortgage payments. As for groceries and other necessities, they borrowed that money from Jolanta's parents.

"It was one horrendously difficult period," he reflects. "I went without pay for 10 months. If I were to say we were paupers, that'd be wrong—we weren't.

RHODA BAER

We were able to feed the kids, keep them comfortable and cozy. They still had toys at Christmas and their birthdays. We're a very tight family, and this just cemented it. I think that the warmth and the hugging that went on is the kind of thing that makes a lot of this possible."

Determination played no small role, either. "Jolanta believed in it because I did, and I was able to keep going because she supported me," Vaughan says. "It was absolutely symbiotic."

'I had to say to my wife, "Look, there's no paycheck."'
KENNETH VAUGHAN, NEOTERIK HEALTH TECHNOLOGIES

Vaughan took his decrepit Buick on the road, scouting for new customers. He ended up at a Con Edison nuclear plant on Long Island Sound. Vaughan learned that it needed respirators almost identical to those he'd sold to Three Mile Island. He could construct them from parts already stockpiled. "What I then had to do," he recalls, "was find a distributor to finance the job the way we wanted it financed."

He found one, a Maryland company called Radiation Service Organization (RSO), and struck a deal—RSO would pay Neoterik as it delivered the gear. The Con Ed order ultimately brought in $120,000. Searching for more capital, Vaughan turned to a small-business investment corporation, a venture firm called Suburban Capital Corp., in Bethesda, Md.

"I said, 'Look, guys, I have something going here. Come in and put a debenture into this company so we can keep it going.' And that's what they did. It turned out that Suburban Capital's president had spent some time as a welder and had been exposed to industrial fumes. The need for adequate protection just clicked with him immediately." The firm invested $350,000 in Neoterik, adding another $300,000 a year later.

It was about this time, late 1983, that the asbestos-abatement industry took off, and Vaughan quickly spotted the opportunity. Asbestos workers needed the kind of respirator Neoterik specialized in and constituted a much larger market than radiation workers. "That's when we got onto the growth path that's brought us where we are now."

In retrospect, Vaughan says, the Portable Air fiasco taught him an important lesson. "The things I did wrong were so clearly wrong that it makes me wonder why I did them. I had always thought that even if this [Portable Air] arrangement didn't work out, I could take the wholesaler out and deal directly with the distributors. Logically, you'd expect that to happen. But it doesn't work.

"As far as I'm concerned, it is imperative for a young manufacturing company to stay very, very close to its customers. If you put anything in the way—however beneficial it may appear—it's going to hurt you. Unless you sit there on the equipment user's doorstep and listen to him, you'll never be in the right place at the right time."

When You've Bet Your Company on a Process that Fails

COMPANY: LifeCore Biomedical Inc., Minneapolis
RANK: #94
FOUNDED: 1965
SALES: $3.6 million
PROFITS: $144,000
BUSINESS: Manufactures and markets high-purity biomaterials
CEO: James W. Bracke
AGE: 42

As corporate crises go, LifeCore Biomedical Inc.'s looked terminal. James W. Bracke, the 42-year-old scientist-turned-CEO, likens it to "that first brush with death, when mortality suddenly has a different realism for you. It made me understand," he says, "that the line between victory and defeat can be crossed quicker than you think."

In 1984 victory had seemed close. A newly installed, million-dollar fluid-handling system would enable LifeCore to realize the vision Bracke had brought to it three years earlier, becoming the only commercial manufacturer of a material it had nursed through nearly four years of R&D. The material would—the company hoped—become a major medical commodity. LifeCore even had its first big order in hand, from Cilco Inc., a subsidiary of a giant pharmaceutical concern, which had committed itself to a substantial annual purchase.

LifeCore's breakthrough had to do with sodium hyaluronic acid—or simply HA—a basic substance of all living tissue. HA is the thick, syrupy fluid that coats every soft-tissue cell, providing lubrication and flexibility. It plays a critical role in cataract surgery, among other procedures. Before LifeCore, the only commercially available HA was derived, strangely enough, from rooster combs. And so complicated was the production process—it took thousands of combs to produce minute quantities of HA—that it cost $9 million per pound. "In the history of the world," Bracke says, "there probably had been only a few pounds of pure HA made."

A Ph.D. microbiologist specializing in infectious diseases, Bracke had come up with a bioengineering technique to make HA. He'd observed that *streptococcus* bacteria—the same germs that cause some sore throats—somehow coat themselves with HA; they actually manufacture it. "Just like yeast makes beer, strep bugs make HA," he says. "We wanted to scale it up and produce it commercially."

And so by July 1984, in new quarters and with expensive systems in place, LifeCore was ready. The trick in

STEVE SCHNEIDER

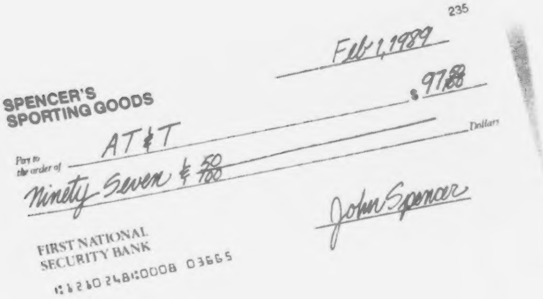
the production process was in the filtering. "This material is harder to purify than any drug that's ever been made," Bracke explains. "HA is intertwined with all the biochemistry in your body. All the proteins and everything else react with it very intensely. So when you purify it you have to remove all those elements. That's extremely difficult, but if you don't, they'll cause a reaction when they're injected into the body. Purification is the battle."

Over the next few months, Bracke came to the bitter understanding that the battle was going badly. "We discovered we couldn't purify the water in our system, and as a result there were microorganisms in it. It was impossible to make clean product." By December 1984 the outlook was grim. Earlier that year, poorly capitalized LifeCore had sold its only other revenue-generating business, diagnostic kits, to former company officers. Anticipating a smooth transition, Bracke had not foreseen additional funding needs. By his estimate, the company had only $6,000 left. It couldn't survive another month.

LifeCore teetered on the edge of oblivion, which was bad enough. But Bracke also felt a profound sense of personal failure. "I was the one who'd had the vision for this whole thing back in '81," he says. "I had a lot of good friends who bought stock in the company when I joined it. I had a banker who backed me early on because he believed in me. There were a lot of people who trusted me, who were convinced I would deliver."

He also had his six employees to reassure. If his scientist bolted, all hope was gone. But keeping a cool head was not easy. "A lot of people say, 'You can't let them see you sweat.' Well, I didn't do a very good job at

Phone 800



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the time. I was not being as perfect as a leader should be, because it had me lathered. I didn't know what to do. It was a real panicky time." He depended on Mozart to provide what little peace of mind he could find.

> **'A lot of people say, "Don't let 'em see you sweat." Well, I didn't do a very good job of that, because it had me lathered. I didn't know what to do. It was a real panicky time.'**
> **JAMES W. BRACKE, LIFECORE BIOMEDICAL**

The folks at Cilco, his only customer, were not exactly crazy about the situation, either. They had made a lot of noise in the industry about the HA breakthrough, and had invested $4 million researching the product's possibilities. They were ready to begin testing. Doctors and patients were lined up, awaiting clinical samples. "In a medical company, it's very bad to announce that something is coming and then have to admit that it's late," Bracke says. "But that's the position we were putting Cilco in."

He brought in a consultant, and together they fashioned a corrective plan—one requiring a major cash infusion, and fast. Bracke felt he could handle that. "I was always a pragmatic scientist, not so much the esoteric guy in love with the thing because it's a neat idea," he says. "I helped pay for grad school by playing the stock market. So I've always been interested in business and finance. I find it far more challenging than pure science."

This time the challenge was more than he'd bargained for. He met with bankers, venture capitalists, and investment firms. Everyone turned him down. "Nobody could see it," Bracke recalls. "This was so new. There were people willing to invest in biotech in things like proteins and hormones and antibiotics, things they understood. But this stuff looks and acts like mucus. That didn't turn a lot of people on."

Finally, in desperation, he resorted to Cilco. "I didn't want to have to tell them, but they were the only ones who would understand. They had already invested heavily in getting ready for the product, and we had a worldwide, exclusive contract with them. They were my only shot."

He met with Cilco executives to explain the situation. They had high expectations for the product, believing that the surgical market for HA, then $50 million, was headed much higher. Lacking access to the rooster-comb variety of HA, they had no source besides LifeCore. It was worth a chance, they reckoned, to bet on the fledgling manufacturer. Before long LifeCore received a rescue package of $800,000.

Back in Minneapolis Bracke hired new engineering talent and brought in state-of-the-art filtration and pumping equipment—an entirely revamped system. Within three months, he had turned the situation around and was supplying Cilco with material. With the new process proving out, Cilco added $1.7 million more to ensure success. For its total $2.5-million investment it received 30% of LifeCore's stock.

Today, LifeCore produces more HA than eye surgeons need, and its product is rapidly gaining market share. Already used in skin-care creams, HA may soon be used in general surgery, where it is expected to impede or eliminate the growth of scar tissue. A possible application: surgery on the female reproductive system, which scar tissue can render infertile.

And Bracke? "I'm confident again, but not the way I was. After being shaken like that, you lose your old perspective, and you can never really go back." ☐

Research assistance was provided by Mary Harbaugh, Ann Mueller, and Julie Rasicot.

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HANDS ON

A Manager's Notebook

MANAGING PEOPLE

GETTING TO KNOW YOU

Your business is growing, your staff is getting bigger—and you know less and less about each employee. What's more, they probably don't know much about one another. One way to attack the problem and celebrate your people? A company yearbook.

That's what Original Copy Centers Inc., in Cleveland, decided its three-shift, 110-person staff could use. The execution is simple: everybody fills out questionnaires asking about their favorite music, ideal weekend, biggest challenges, and best childhood memory. Other fill-in-the blanks: "What I really like about my job" and "My role at Original." The book devotes a full page to each person's quotes, which run alongside a large photo.

While the yearbook is for employees, marketing manager Michael Setta says that customers also browse through the books, which are displayed in the lobby of the company's headquarters. And company president Nancy Vetrone, who conducts all the annual reviews, uses the profiles as background.

Production, done in-house, costs about $1,600, mostly for photography. If Original had to pay for everything, Setta estimates, the tab would be closer to $5,000.

COMPENSATION

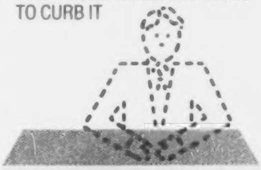
PAPER CHASE

In a fast-growing company, paperwork—and the people who handle it—is often neglected. Michael Barrist, founder of NCO Financial Systems Inc., a $1.5-million collection agency in Philadelphia, initiated a bonus system for his data-entry clerks that has brought the paperwork problem under control. Productivity has increased an average of 25%, which, Barrist says, saved him from hiring, training, and managing an additional clerk. And there has been no drop in quality.

For every day finished without a backlog, each of NCO's seven clerks gets a point; at month's end, $250, $200, and $150 prizes are awarded to the top three performers. To keep the rest of the staff's spirits up, NCO also has a random drawing for a $100 prize. "This is a business where usually everybody works to win some prize or contest except the clerks," Barrist says. "This way nobody feels left out of the fun."

ABSENTEEISM

WHAT COMPANIES ARE DOING TO CURB IT



What measures, if any, is your company taking to control excessive absenteeism?	
Disciplinary measures or penalties	52%
Incentives or rewards	7
Combination of both	41

If using incentives or rewards, which types are used at your company? Check all that apply.	
Bonus days	14%
Cash	38
Recognition awards	39
Prizes	4
Other	4

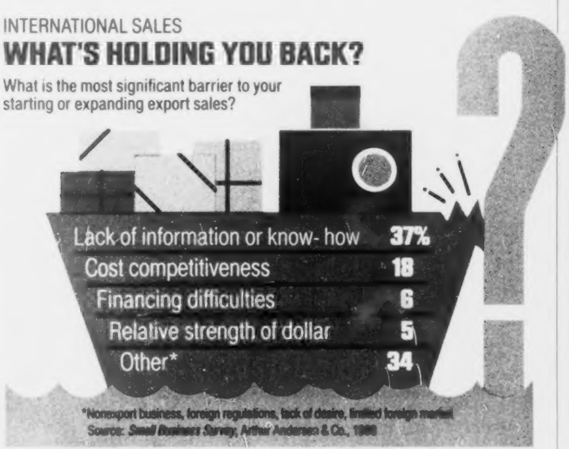
If your company uses incentives, have they been significant in reducing absenteeism?	
Very effective	22%
Somewhat effective	66
Not at all effective	12

Source: Uniforce Temporary Services *Absenteeism in the Workplace*, 1988

INTERNATIONAL SALES

WHAT'S HOLDING YOU BACK?

What is the most significant barrier to your starting or expanding export sales?



Lack of information or know-how	37%
Cost competitiveness	18
Financing difficulties	6
Relative strength of dollar	5
Other*	34

*Nonexport business, foreign regulations, lack of desire, limited foreign market

Source: *Small Business Survey*, Arthur Andersen & Co., 1988

INCENTIVES

DRIVE IN

To keep employees motivated and upbeat, many companies recognize outstanding work by selecting an employee of the month. Pam Reynolds, CEO of Phoenix Textiles Inc., in St. Louis, goes a step further. The $30-million textiles-distribution company also reserves a special parking slot for its employee of the month, located next to the president's space and near the front door. "It ensures companywide recognition for a job well done and is a great morale booster for the other employees to see that hard work doesn't go unnoticed," Reynolds says.

When an employee does a particularly good job, it's reported to the personnel manager, who meets monthly with key executives to decide who will get the parking space and a $10 restaurant coupon. "In such a fast-growing business, it's easy to lose track of everybody's contributions. This is one way we keep in close touch with our employees," says Reynolds, whose company was cited as one of the best employers in St. Louis in 1987 by *St. Louis* magazine.

FINANCE

COLLECTING ACCOUNTS

If past-due accounts are a problem in your company, you might follow the lead of Linda L. Miles. Miles, president of Linda L. Miles & Associates, a Virginia Beach, Va., management consulting firm for dentists and optometrists, gets on the phone herself and suggests to late payers that they consider the convenience of using their business credit card to pay their bills.

Miles's pitch goes something like this: "The expense voucher we submitted on May 30 has not been paid, and we need to clear the account soon. Rather than my taking time to prepare another statement and your wasting time preparing and mailing the check, we can clear the balance right now by placing it on your business credit card."

Such calls, Miles finds, "if they are friendly and firm," are 7 to 10 times more effective than sending out additional bills.

CHARTS: CYNTHIA DAVIS

HANDS ON

RECRUITING

HOW TO WRITE AN AD

If you've searched for ways to write a help-wanted classified that will bring in the kind of responsible, conscientious candidates you'd like to interview, you might want to take your cue from Steve Kantor.

Kantor, president of Gnossos Software, in Washington, D.C., wrote an ad recently that brought five times more responses than the newspaper had told him to expect—about 175 in all—and turned up five finalists he would have been more than happy to hire.

The ad began, "Small entrepreneurial firm seeks sharp liberal arts grad. Vision, ethics, personality required." Kantor claims many of the candidates cited "ethics" as the reason they answered the ad.

To narrow down the overwhelming response, Kantor sent a congratulations-on-being-selected-for-consideration letter to the top 20% of the applicants and asked them to answer these questions in another letter: "What are your greatest strengths? What are your weaknesses? What did you like and hate most about your most recent work experience? Describe the political, social, and economic impact of PCs." (Kantor says he was "half kidding" with the last question, and he was looking for respondents who answered in kind.)

"This way, I can screen out people who don't have drive and ambition," says Kantor, who ended up interviewing about 20 final candidates by phone. "I can get a feel for people without being influenced by their physical appearance, and it gives applicants a chance to be thoughtful about their responses. Plus, I save loads of time and energy." ☐

SELLING

DROP A LINE

If making the sale requires you to get through the door to see the top dog, you'd better not rely on casually dropping in.

You can be much more successful if you plan in advance, says Tony Frederick, CEO of FrederickSeal Inc., a Bedford, N.H., marketer of industrial sealing devices. Frederick encourages his salespeople to send postcards to customers a week before calling on them; the postcards are printed with a list of all the items the company sells, by category, and carry the message that the salesperson looks forward to a visit the following week.

Upon arriving at the customer's office, the salesperson can honestly tell the appointments secretary that his or her call is expected. "The customer then feels an obligation to make it a two-way conversation," Frederick says.

That few salespeople are so well organized turns out to be a big asset. "You stand out from other people who call," Frederick says. "You build a presence in the customer's mind." ☐

OPERATIONS

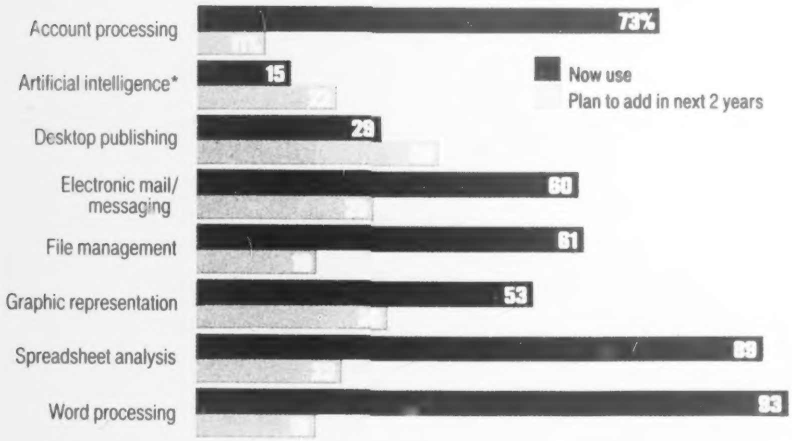
TIME-OUT

When high quality is the way you get and keep your customers, Scott Hallman reasons, you'd better find a system to maintain it—even if you have to sacrifice growth temporarily. Hallman is CEO of Hospital Correspondence Copiers Inc., a $16-million San Jose, Calif., company that provides medical record-copying services to hospitals nationwide. And key to his sales spiel is the quality of his service—no incorrect records copied, no late delivery. So when monthly customer checks indicate that quality is dropping—usually toward the end of the year—salespeople can take no more new customers for six to eight weeks.

"Our service is offered on a month-to-month basis," Hallman says, "so customers aren't locked into anything. We have to be vigilantes about quality." The reprieve gives the company the opportunity to hire and train new staff without the added pressure of servicing new clients. And the marketing staff has time to update market analyses, develop new campaigns, and call on prospects without having to close the sale. Does Hallman lose customers? He says maybe 10% of those he turns away look elsewhere. But compared with his chief competitor, he does much better at keeping the accounts he has. ☐

OFFICE TECHNOLOGY

SOFTWARE USE



*Expert systems

Source: ***Approaching the Automated Office***, by Walter A. Kleinschord, Administrative Management Society Foundation, Willow Grove, Pa., 1987

Reported by Leslie Brokaw, Teri Lammers, Stephen D. Solomon, and Ellie Winninghoff

THE RECEIVABLES CHALLENGE

What to do if customers are taking too long to pay their bills

BY CHARLES J. BODENSTAB

When I acquired my business almost six years ago, the accounts receivable were running about 53 days. Within a year, under my brilliant management, that number was up to 60 days. Then we had a write-off of more than $100,000. As you can imagine, that caught my attention.

We had installed some pretty effective systems in other parts of the operation during that first year. The one area we'd neglected, however, was accounts receivable. And there were reasons for that. First of all, it was an area of management in which I had no experience. Second, my optimism and eagerness to grow the company led to my making some less than prudent decisions about extending credit. Finally, let's face it: dealing with receivables is not one of the more enjoyable aspects of running a company. In fact, it's downright distasteful.

Another obstacle is that the reports and management tools available to control receivables are pretty limited. At first I thought that the classic past-due report would be a great device to monitor problems. But upon scanning this monstrosity a few times, I found my eyes glazing over. I tuned out and we got into big trouble.

After that $100,000 write-off, however, we started a major overhaul of virtually everything we did. About two years later our receivables were down to the 40- to 42-day range, and lately we've even been in the high 30s. Bad-debt write-offs are running around $20,000 a year, or two-tenths of a percent of sales, compared with our past six-digit experience.

Here's what worked for us:

☐ **Look at personnel.** Often, I've found, the first step toward progress is to put someone different in a key position. That was true in this case. Our credit manager simply wasn't going to be up to the job once we revamped the system. We replaced him with a woman who had started out as our receptionist and had progressed through the organization. Although she didn't have any academic credentials or experience in receivables, she had a certain forcefulness and a personality that seemed just right. And it was. We also put her on an incentive plan—she receives a cash payment of $20 to $100 each month based on the number of days of receivables. And she has been great at doggedly pursuing delinquent accounts and limiting our exposure to losses.

☐ **Get yourself out.** It finally became clear—even to me—that until I got out of the credit area on a day-to-day basis, we weren't going to make any progress. Owners are optimists. We're customer oriented. And both characteristics are lethal to the credit-approval process. Plus, if the customer knows that you can approve credit, you have no place to hide and are likely to acquiesce.

So we set the rules. I was no longer available for credit approval.

☐ **Establish initial creditworthiness.** There's an entire body of literature on how to establish the creditworthiness of a prospective customer, so I'm not going to repeat the material except to say: *do it.* Most companies understand that, but they fail to write up the necessary procedures and policies. We were no exception, but we are true believers now. Not only do we thoroughly spell out procedures, but we go to great lengths to communicate the logic behind the ground rules to our salespeople.

RECEIVABLES OUTSTANDING
For selected industries*

	Median number of days
WHOLESALE:	
Tires and tubes	**42**
MANUFACTURING:	
Electronic-computing equipment	**69**
SERVICE:	
Employment agencies	**41**
RETAIL:	
Family clothing	**8**

*Fiscal year ends 6/30/87 through 3/31/88.

Adapted from *Annual Statements Studies 1988 edition,* with permission of Robert Morris Associates, Philadelphia.

One technique we initiated helps keep both our sales- and credit people happy. Quite often, in order to lock in a new customer who needed a quick shipment, we'd bypass the initial credit check. While we couldn't continue doing that, we did install an interim "quick credit approval." A salesperson has to supply us with only a bank name and two vendor references, and we will guarantee a response within a half day for the first shipment—with the understanding that the final full credit-approval document will follow. This procedure may sound trivial, but without it there was a tendency to use the rush situation as an excuse to forego credit checks entirely.

☐ **Check credit before shipment.** Our basic computer system had some fairly good credit-checking capability at the time an order was entered—in theory, at least. The problem was, we were partly on the system and partly doing the job manually. When we got the system entirely on line, we could implement the credit-checking features. Now, when an order is entered, the computer notes: 1) if there is a

BAD JUDGMENT
How *not* to handle your receivables

Here's how I managed to wind up with a $100,000 receivables write-off. The technique is infallible, but I wouldn't recommend you try it.

■ Start with an unknown individual who has a minimum of capital and a great story about his prospects in a far corner of the state.

■ Offer extended terms so he can finance the inventory needed to generate the fantastic business he has described.

■ When he is past due on his payments, rationalize that this is temporary, perhaps because of seasonality.

■ Let the account's salesperson verify that the inventory is in fact in place.

■ As you look at the financial statements, be sympathetic that this is a new operation having trouble getting a handle on its operating results.

■ When you start to realize your customer is in trouble, don't take your losses early. Stick with him, and you ought to be able to double the amount you have to write off.

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credit hold; 2) if a credit limit is being exceeded; and 3) if the customer is 60 days past due. If any of these situations exist, the credit manager has to clear the order.

We learned that if we didn't stop a risky account's product from getting out the door, we were constantly playing catch-up ball. And, frankly, our sales force—maybe yours, too—was not above trying to slip an order through the system.

☐ **Monitor extended terms.** Extending terms is just another form of price cutting. It also extends your receivables and your risk of loss. This was another area where I had to get out of the picture. Our controller has a good protective attitude about letting go of the money, and he now is in charge of approving any extended terms.

☐ **Develop management reports.** While I had to get out of the day-to-day handling of receivables, I did need overall management control. Gross measures, such as percent past due, are fine for estimating general progress, but they are not tools to help get at the heart of various problems. And with more than 3,000 customers, the classic past-due report by customer listing was a mind-boggling mass of data.

I finally developed a month-end exception reporting system that extracts the critical information that I need to oversee receivables (see "Hitting Your Numbers," April 1987). Briefly, this program isolates two groups of accounts. The first report lists only those customers whose accounts have undergone a statistically significant adverse change. Rarely is this more than 70 to 80 accounts out of 3,000, but they make up 99% of the short-term problems. The second report lists the accounts with a history of problems, which need to be monitored. Again, it extracts only about 100 customers out of 3,000, but covers 99% of the chronic offenders.

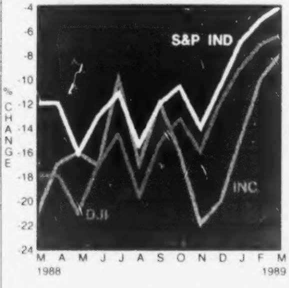
In both reports, since we display only a small fraction of the accounts, we can print out a six-month history, which aids immensely in tracking them. With these two reports, I have a firm handle on receivables within a half hour after getting the printouts. They're also a useful guide for the credit manager in pinpointing which accounts need following up.

The payoff for all this effort has not been small potatoes. In my company, with $12 million in sales, the result of getting receivables down from 60 to 40 days is roughly $700,000. This may not be the most glamorous end of the business, but figures like that do quicken the pulse. ☐

Charles J. Bodenstab is chief executive officer of Battery & Tire Warehouse Inc., in St. Paul. Previously, he held executive positions with United States Steel, General Cable, Kearney-National, and Gould.

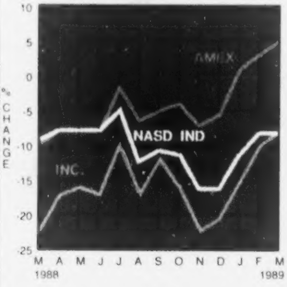
INVESTING IN GROWTH COMPANIES

INC. vs. CONSERVATIVE AVERAGES



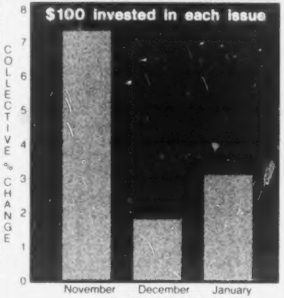
All averages start at 0 in October 1987.

INC. vs. SPECULATIVE AVERAGES



All averages start at 0 in October 1987.

IPOs IN THE AFTERMARKET



To March 15, 1989

INITIAL PUBLIC OFFERINGS: FEBRUARY 1989

O-T-C sym.	Company	Business/product	Offering Size ($mil.)	Offering Price	First aftermarket bid	Underwriter
BHM[a]	**B + H Maritime Carriers Ltd.**	Will own & operate secondhand vessels	33.75	15.00	14¾	Salomon Bros.
BTELU	**BT Telecom**	Telecomm. co.	8.80	5.50[c]	6¾	F. N. Wolf
BTUI	**BTU International**	Mfrs. thermal processing products	13.60	8.00[d]	8¾	Smith Barney
CGXXU	**Cattleguard**	Operates restaurants	4.00	4.00[e]	3¾	D. H. Blair
CTAI	**Clinical Technology Associates**	Develops pharmaceutical products	3.75	5.00	5¼	Rosenkrantz
CXE[b]	**Colonial High Income Municipal Trust**	Closed-end fund	270.00	10.00	[illegible]	Paine Webber
HCTUF	**Healthcare Technologies**	Develops, mfrs. & mkts. medical kits	2.50	5.00[f]	5¾	J. T. Moran
YLH[b]	**High Income Advantage Trust III**	Closed-end fund	15.00	10.00	[illegible]	Dean Witter
HMEDU	**HiMedics**	Develops pharmaceutical products	8.00	6.00[f]	6¾	D. H. Blair
HWKF	**H. W. Kaufman Financial Group**	Holding co.	5.60	8.00	7¾	First Michigan
MEN[b]	**MuniEnhanced Fund**	Closed-end fund	250.00	12.00	12	Merrill Lynch
NETG	**Network General**	Produces network-analysis tools	15.20	8.00[g]	9¼	Alex. Brown
PMM[b]	**Putnam Managed Municipal Income Trust**	Closed-end fund	400.00	15.00	[illegible]	Prudential-Bache
UFBK	**United Federal Bancorp**	S&L holding co.	26.88	9.00	9	Merrill Lynch

Initial public offerings sold at $1 or less not included. First aftermarket bid is approximate. [illegible] NYSE. [c] units of 1 common + 1 class A warrant + 1 warrant of [illegible]. [d] Offering was [illegible] shares to 1.7 million shares. [e] units of 4 common + 4 warrants. [f] units of [illegible]. [g] Offering was increased from 1.64 million shares to 1.9 million shares. Offering data source: [illegible] The IPO Reporter, a publication of The Dealer's Digest Inc., 150 Broadway, New York NY 10038.

STREET TALK Following a brisk surge that carried it some 14 percentage points in four months, the INC. Index at last achieved a measure of post-Crash respectability this March, tying with the NASDAQ Industrials and closing in on the DJIA and S&P 500. Those stocks must be tired campers indeed.

Just as well, then, that they have been replaced with fresh legs, derived from the 1989 INC. 100. The effect of the revised INC. Index, made up of all actively traded stocks selling for more than $2 as of this March 15, will hit the charts next month, and judging from their 12-month stock-market performance, there's welcome sprightliness. From March '88 to March '89, the INC. 100 taken as a whole (INC. buys a fictional $100 worth of each issue at the start of the period, and sells the holdings at the end, arithmetically toting up the result) was ahead by more than 16%. For one of the few times in recent years, our bunch led all comers, beating the DJIA (up 12.5%), the S&P Industrials (up 10.3%), the American Stock Exchange Index (up 11.3%), and—surprisingly, inasmuch as 91 of the 100 INC. issues trade there—the NASDAQ Industrials (up only 2.5%).

—*Robert A. Mamis*

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JUNE 1989
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ANATOMY OF A START-UP

THE SELF-TAUGHT ENTREPRENEUR

After two years Octavia Randolph is ready to launch her products. For a look at her business plan, and what the experts are saying about it, see page 84.

A SURVEY OF THE INC. 500

Where do America's fastest-growing companies and their founders come from? Not where you think. SEE PAGE 51

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Webb Chappell

INSIDER

COLLECTING FOR UNCLE SAM

As a creditor, the federal government is about as easy as they come—so easy that it has up to $38 billion in nontax delinquent debt on its books. Shocked by that figure, Congress passed the Federal Debt Recovery Act of 1986, aimed at computerizing and privatizing the federal debt-collection system.

Now, the Justice Department has selected the software of a small company—Legal Software Solutions Inc. (LSSI), in Jericho, N.Y.—to get things going. Under a $5.2-million contract, LSSI will automate the department's debt database and hook it up with the nation's U.S. Attorneys. The system will also be linked to dozens of private law firms that will be authorized to litigate federal debt-collection cases for the first time. Private attorneys will receive 10% to 38% of the amounts recovered.

To test the system, the department has launched a three-year pilot program, involving 10 U.S. Attorney's offices, each working with four law firms. The program targets all federal debts except those related to taxes, Social Security, tariffs, and criminal fines. Included are defaulted loans from the Small Business Administration, the Department of Veteran Affairs, and the Department of Education.

Department
Of
Justice
Building
Visitors

Federal debt collector Ro[illegible]rt N. Ford

Revolutionizing the way Uncle Sam deals with deadbeats

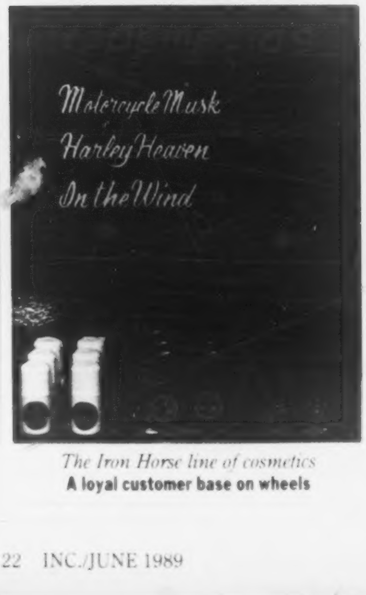
MANUELLO PAGANELLI WOODFIN CAMP

LSSI's system, called EasyCollect, will streamline the process. According to Peter G. Fleischman of LSSI, the software eliminates 85% of all file handling, allowing one trained person to monitor up to 50,000 cases. LSSI, with 1988 sales of $1.1 million, has installed about 75 such systems, primarily in collection law firms, banks, department stores, municipalities, and collection agencies. Fleischman hopes that the Justice Department contract will open the way to the public sector. "The gold ring," he says, "is state contracts."

For the Justice Department, however, the gold ring is a significant chunk of federal debt, and officials are excited about the prospects. "[The EasyCollect system] is going to revolutionize the way we collect debt," says Robert N. Ford, deputy assistant attorney general for debt-collection management. "If private law firms and lawyers make money on [the pilot program], they will lobby Congress to extend it all over the country." —*J.F.*

HIGHWAY BEAUTIFICATION

You don't have to be American Express to appreciate the benefits of a good brand name and a loyal customer base. Just ask Billy Stevens, proprietor of the World Famous Iron Horse Saloon, in Ormond Beach, Fla. His customers are so loyal that they'll even buy the house brand of *cologne*—and we're talking about your basic, hard-core bikers here.



The Iron Horse line of cosmetics

A loyal customer base on wheels

JIM TULLER

For eleven and a half months of the year, the bar caters mostly to the local motorcycle crowd. But for nearly two weeks in March, it's besieged by thousands of bikers who come to town for the largest annual motorcycle gathering in the country. Recognizing a bonanza when he saw one, Stevens began slapping the Iron Horse name onto everything from hats to lace underwear to bandannas, not to mention can wraps and condoms.

And how did he happen to come up with the idea of selling cologne to bikers? "We were sitting around having a couple of beers and got silly talking about it," admits Stevens, a former district service manager for a Boston car dealership.

Silly or not, he moved 500 bottles of Harley Heaven, Motorcycle Musk, and In the Wind Cream during the most recent pilgrimage, clearing about $5 per bottle. (Meanwhile, he was selling 9,000 beers a day, and about 12,000 T-shirts.) Now, Stevens is planning to extend his line—with roll-on deodorant. —*Leslie Brokaw*

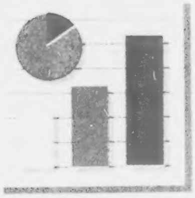
THE ANCESTRY FACTOR

Rank	Ancestry Group	Business Ownership Rate*
1	Russian	117.4
2	Lebanese	106.6
3	Rumanian	104.3
4	Swiss	104.2
5	Greek	94.9
6	Armenian	94.5
7	Danish	93.2
8	Syrian	92.7
9	Norwegian	88.2
10	Austrian	85.7
11	Czech	76.9
12	Swedish	76.2
13	Belgian	74.7
14	Latvian	74.4
15	Welsh	72.4

*Defined as the number of self-employed persons per 1,000 of each group's population

Does ancestry affect the likelihood that someone will start a business? Perhaps. According to Census data, the rate of business ownership varies widely by ancestry group. While the national average is 48.9 self-employed persons per 1,000 of population, the groups above top the list.

INSIDER (continued)



THE ORIGINS OF ENTREPRENEURSHIP

Where do America's fastest-growing private companies and their founders come from? Not where you think

BY JOHN CASE

Entrepreneurs these days play a mythical role in American culture. They're our risk-taking adventurers. Heroes of the new economy. And the INC. 500—the nation's fastest-growing privately held companies—are entrepreneurship incarnate, themselves the stuff of myth. You want life on the leading edge? Daring leaps into the unknown? Ask the founders of INC. 500 companies how they got their start.

Or so we figured.

We certainly posed the questions. By way of an eight-page survey and dozens of follow-up phone calls, we asked INC. 500 CEOs to recall for us how they came to create a company. We probed their background and experience. We asked them where they got the idea for their business, how they implemented it, and of course how they financed the whole thing. Given the mythology of entrepreneurship, we expected tales of inspiration and imagination, of boldly going where no man (or woman) had gone before.

So much for expectations. Instead of swashbucklers, we found hardworking, experienced businesspeople—people such as Jim Hanahan, Bobby N. Frost, and the many others you'll meet on the pages that follow. Instead of life on the edge, we found them pursuing their fast-growing ventures in everyday industries, from insurance administration to mirror manufacture.

And instead of iconoclastic individualists, the cowboy capitalists of America's dreams, we found people enmeshed and embedded in industries, with rich networks of contacts and colleagues they could draw on to help them build a business. For most, the secret of successful entrepreneurship seemed to lie not just in individual inspiration but in knitting a dozen different interests into one cooperative endeavor. Creating a company was a matter of knowing customers, suppliers, partners, and sources of capital. It was a matter of knowing a marketplace well enough to notice tiny fault lines of change—fault lines that would one day become sizable niches in the business landscape.

For us—we'd better admit it—this discovery was a little unsettling.

Like the rest of the press, we're constantly on the lookout for heroes. In our case, that means entrepreneurs who are somehow larger than life, who have seemingly inborn traits that allow them to succeed—and sometimes fail—in spectacular fashion. We paint verbal portraits of these men and women, hailing them as entrepreneurs of the year or the decade, holding them up as exemplars. The rocketing growth of INC. 500 companies fits naturally into this scheme of things. We know that somewhere among each year's list will be CEOs who can tell us truly astonishing stories, stories of breathtaking risk and soul-satisfying reward.

But the unemotional numbers of the survey

An INC. 500 Survey

TRADE SKILLS

- *Did your parents run their own business while you were growing up?*
- *Did you ever start a serious business as a child or student?*
- *Did you start any companies other than your INC. 500 company?*
- *What was the single most important source of your skills and abilities as a company builder?*

(see page 53)

THE IDEA

- *Where did the idea for your INC. 500 company come from? Brainstorm? Hobby? A market niche you spotted? Your in-depth understanding of your own industry or profession? Someone else you could copy?*

(see page 54)

FIRST STEPS

- *Who helped you develop your idea and turn it into a business?*
- *How long did it take to start your INC. 500 company, from the original idea to the beginning of operations?*
- *How fast did you originally plan for your company to grow?*

(see page 56)

MONEY

- *How much money had you estimated you'd need to launch your company?*
- *How much money did you turn out to need?*
- *What were your most important sources of capital?*

(see page 58)

teach a different lesson: that these characters are the exception, not the rule, and that the creators of the INC. 500 companies are down-to-earth, practical-minded people for whom, more often than not, building a business was simply the next logical step in a career. Jim Hanahan spent 23 years with an insurance company. Then the market shifted ever so slightly, threatening to undercut a small part of his employer's business. Hanahan decided he'd rather switch than fight and set up a company of his own to capitalize on the new environment. Other stories are similar. After 22 years in the industry, Bobby Frost started a mirror-manufacturing company to take advantage of technology that his employer was ignoring. Tom Scholl spent 13 years with Young & Rubicam in Detroit before setting up his own ad agency, seeking out clients he thought Y&R was overlooking.

Risk? Sure—any of these businesses might have failed. Hard work? That too. "We'd all be president or whatever during the day and work in the plant at night," remembers Frost, who began his business with his brother. Entrepreneurship is never easy. But all these people, like many others we talked to, were venturing into familiar territory with well-delineated risks. If they failed, well, jobs would have been waiting for them elsewhere in their industries. And the steps they took in the earliest stages—steps you'll hear more about in subsequent sections—kept the chances of failure to a minimum.

The inescapable conclusion: entrepreneurs are made, not born. Made by their experience. Made by the changing marketplaces in which they find themselves. Granted, maybe there's some quirk of personality, some subtlety of background, that separates these INC. 500 CEOs from their erstwhile counterparts who kept climbing the corporate ladders. But we don't know how to describe that difference, and we doubt it's the same for everyone. What is the same—what crops up over and over in the stories we heard—is what you might call situational entrepreneurship. As individuals, the people aren't so different from the rest of us. But they were working in situations where, thanks to their experience, they knew exactly how to go about building a business. They were smart enough to spot the opportunity and knowledgeable enough to take the right first steps.

It's always tempting to glamorize the dramatic adventurers in the business world; like movie stars and major-league ball players they lend a little pizzazz to everything they touch. But maybe it's not so discouraging to find that entrepreneurship is a more mundane matter than it's sometimes portrayed. As the stories and statistics of our survey show, you don't need to be a person of mythical proportions to be very, very successful in building a company.

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TRADE SKILLS

Jim Benedict had 15 teenagers working for him—shoveling snow off shopping-center roofs in his hometown of Buffalo—by the time he was 10 years old. By age 27 he had started three more companies, including the advertising and marketing agency he now owns.

You can find these entrepreneurial wunderkinder if you look hard enough, men and women with company building apparently in their blood. Depending on how you count, anywhere from one-sixth to one-third of our sample are these Born Entrepreneurs (see box below).

But if you want a more typical case history, consider Jim Hanahan. Or maybe Mark S. Smith.

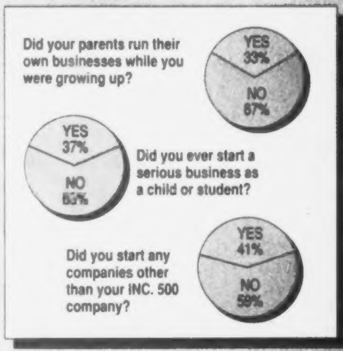
Hanahan, 56, runs a third-party administration company, as it's known, which manages self-insured health plans for corporate clients. You wouldn't have pegged him for an entrepreneur: no childhood businesses, no other start-ups, just a 23-year career with multibillion-dollar Connecticut General Life Insurance Co. (now CIGNA) in the staid old insurance industry. Smith, 41, worked in Southern Railways Inc.'s marketing department and wound up with the wonderfully bureaucratic title of manager of intermodal pricing. If Southern hadn't wanted to transfer him from Washington, D.C., to Roanoke, Va., he might still be there, instead of running his own transportation service company out of Overland, Kans.

What makes Hanahan and Smith typical? Just this: two-thirds of our respondents grew up in households where their parents worked for wages rather than running their own businesses. Nearly as many undertook no entrepreneurial ventures as children. Three-fifths started no companies other than the one that landed them on the INC. 500. Almost all of the respondents, in fact, did just what most people do: they went to school, got jobs, took up a particular line of work. Ask them how important for their current role were the skills they acquired while working, and a whopping 85% check "critically important" or "somewhat important." Ask them to cite the single most important source of their abilities as a company builder, and at least twice as many point to "work or professional experience in an industry" as to any other answer.

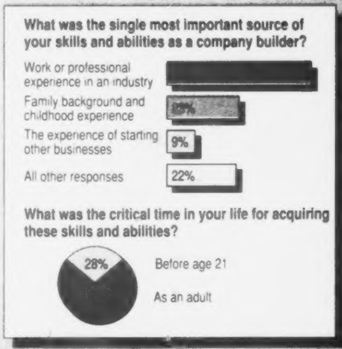
There's a theory, dubbed trade skill, that argues for the importance of early exposure to entrepreneurship. "Usually the person who successfully starts and runs a small business," write the people who invented the concept, "either had a parent or close relative who had a business or . . . they had significant business experience themselves before the age of 18." For about a quarter of our respondents, that theory seems to hold true. Like snow-shoveler Jim Benedict, they point to family background and childhood experience as the key source of their talents, and report that they had the most important skills and abilities for company building by the time they turned 21. And doubtless a much larger fraction of our CEOs come from entrepreneurial backgrounds than you'd find in the population as a whole.

But if the trade skill theory doesn't describe you, don't despair. It doesn't describe Hanahan, Smith, or most of the other INC. 500 founders either. For the majority of respondents, what made the difference between continuing a career and starting a company wasn't any formative childhood experience. It was the simple fact of spotting—and developing—a new idea.

ENTREPRENEURIAL EXPERIENCE



SOURCES OF SKILLS



BORN ENTREPRENEURS

If you wanted to prove that entrepreneurial instincts are genetic in origin, you might trot out Robert G. Barbour as Exhibit A. "The question growing up was never whether I'd be in business for myself, it was what that business would be," says Barbour, founder of Windline Amanet.

Some people do seem almost born to the calling. Thirty-seven percent of our respondents started at least one serious business in their youth. Nearly half of those started two or more. And 41% started at least one business as adults other than their INC. 500 company, with a quarter of that group starting three or more companies.

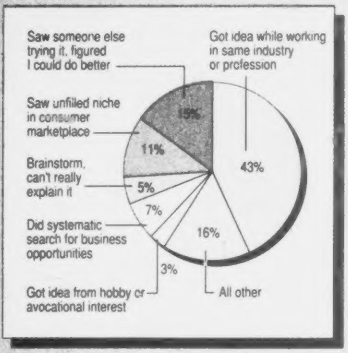
RICK NOYLE/GAMMA LIAISON

Barbour, 42, qualifies on all counts. In college he netted some $150,000 selling inventions ranging from a "slurp gun" (for trapping tropical fish) to a patented alarm system. Then came more serious company building. Sunrise Leather, a manufacturer of belts, vests, and handbags, reached $700,000 in sales before Barbour cashed out. Two companies later Barbour was designing and selling equipment and technology used in the art glass and decorative ceramics industries. After that he started a laboratory to grow synthetic emeralds, and he imported natural emeralds. Finally his interest in yachting led to the creation of Windline Marine, a manufacturer of boating accessories. Several years later he started an industrial and aerospace-components division called Amanet. Today Windline Amanet is doing $3 million in sales. —*Elizabeth Conlin*

CHARTS BY DAVE HANNUM

THE IDEA

WHERE GOOD IDEAS COME FROM



How to explain where Great Business Ideas come from? Some of our respondents didn't try; they checked the box on the questionnaire that said "Brainstorm; can't really explain it."

But more common than the out-of-the-blue inspirations were the explicable ones, the ideas that caught their creators by surprise but in retrospect seem pretty logical. James Ake's liquid plant-food business was chugging along at a modest speed until, caught in the middle of a rush order, he realized his automatic bottle-fillers couldn't do the job fast enough and so designed a new machine. Today Ake's Electronic Liquid Fillers Inc. sells $11 million worth of filling equipment.

The mythology of entrepreneurship celebrates such serendipity, propagating an image of the lone company-inventor suddenly flashing on the idea of a lifetime—and sometimes it happens just that way.

Typically, though, the idea for a fast-growing business appears in much more pedestrian fashion. The structure of a marketplace shifts, maybe ever so slightly. A new niche opens up. And all at once people like the aforementioned Hanahan or Smith, people who may never have expected to become entrepreneurs, are out on their own and amazed by their own success.

Market shifts come in many guises. For Hanahan, the key factor was a federal court ruling allowing corporations to set up self-funded health-insurance plans, a murky legal area until 1978. That "opened the floodgates," he says, in that it created a market for specialists in setting up and administering such plans. Hanahan's St. Petersburg, Fla., firm, with the self-defining name of WHP, First in Employee Benefits Inc., was among the first in the marketplace. Smith also was the beneficiary of a change in the regulatory environment. Railroad deregulation created a niche for companies that could negotiate deals with the rail lines and with truckers, then sell packages of door-to-door transportation services to shippers. Smith's $15-million Hub City Kansas City Terminals Inc. grew 783% between 1983 and 1987, thus making last year's 500 list.

'I spent 23 years working in the same area. I saw consumers' concerns and decided that there must a better way.'

—Jim Hanahan

GEORGE JOHNSON

Sometimes it's technology that shakes up a marketplace. Computer companies, for an obvious example, can get started by taking advantage of ever cheaper processing power. Solution Systems Inc. founder Neil Kleeman, 41, spent about $300,000 on a computer equivalent to his former employer's million-dollar machine, and was able to lure customers away with lower prices (see box, "Your Basic Good Career Move," page 62).

But technology crops up in less likely places as well. When we heard of Consolidated Glass & Mirror Corp., in Galax, Va., a mirror and glass fabricator for the home-furniture industry, we thought we'd found the quintessential low-tech, rural business. Our mistake.

"A lot of technology came on the market about 1980 that hadn't been there," says cofounder Bobby N. Frost, 51, explaining in a rich southern accent where he got the idea to start the company. "It's all computer numerical control equipment, and it's revolutionized the manufacture of glass and mirrors for furniture." Frost, then a superintendent for another company in the industry, had worked in glass and mirror fabricating for 22 years. When he learned his employer wasn't really interested in the new technology, he and his brother John set up shop with state-of-the-art machinery. Eight years later they're up to more than 600 employees and $36 million in sales.

(continued)

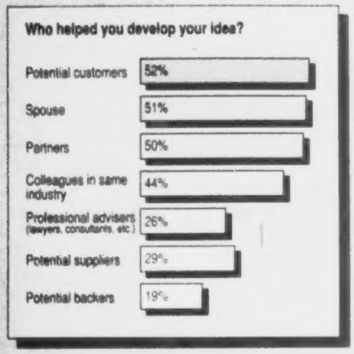
UNLIKELY SOURCES

If you have a lemon, goes the saying, make lemonade. And if you're facing a problem, turn it into the idea for an INC. 500 company.

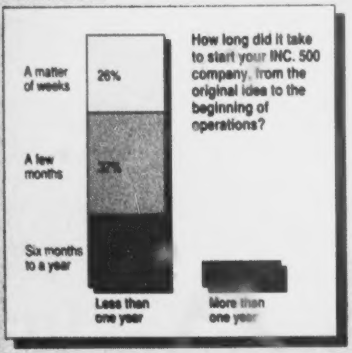
- **Ministering to the sick.** Jean Griswold, wife of a Presbyterian pastor, tried to find volunteers to help elderly parishioners with errands and household tasks. Her success was sporadic, until she realized that the old folks were willing to pay for help. She then began hiring students to do the work. From these modest beginnings Special Care Inc. has grown to a $10-million, multistate operation supplying full- and part-time help to the elderly and infirm.
- **Reinventing the wheelchair.** Allan Thieme, a plumber for 12 years, was visiting Mexico with his wife, who uses a wheelchair, and found the chair off-putting as well as awkward—"People wouldn't get near us; they just stared." For the next six months he worked in his spare time to build a light, motorized, three-wheeled scooter that performs the same function as a wheelchair but doesn't carry the stigma. Now, Amigo Inc. sells $10 million worth of the vehicles annually, which—according to an owner who is now a company salesperson—"bring a sense of self-respect and independence" as well as mobility.
- **Blackmailed into business.** While still in his twenties, Philip Walkenshaw tried repeatedly to start an enterprise he called Tartan Laird Ltd., selling family histories and tartans to people of Scottish descent. But he couldn't find the capital. Finally Ralph Jansen, a former boss of Walkenshaw's, said he'd invest if Walkenshaw first started an agency to handle the advertising for the publishing company Jansen worked for. Reluctantly Walkenshaw agreed, running the tiny ad agency out of his back pocket while developing his Tartan business plan. The latter, alas, went nowhere—so Walkenshaw finally turned his attention to the agency, landing Montgomery Ward as his first big client. Today Walkenshaw's Townsend Agency Ltd. is doing nearly $15 million in billings.

FIRST STEPS

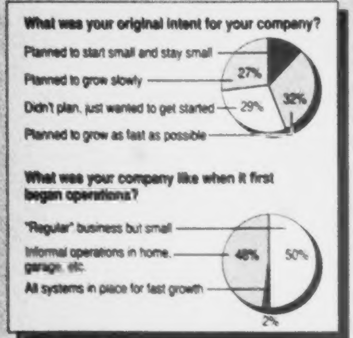
HELPING HANDS



TIME LINE



START-UP AMBITIONS



When we planned the questionnaire for our INC. 500 chief executives, we figured we'd write a here's-how-to-get-started section of the article. So we asked the respondents: who helped you develop the idea? Who helped you turn it into a business? What, exactly, did you do first? We also asked them how long it took to get the company operating and whether they planned on fast growth (see charts) or on any sort of growth at all. When we began browsing through the responses, we realized our textbook-style approach was in trouble.

For starters, there was the head-down, do-it-don't-talk-about-it minority, the one-eighth or so who checked "didn't really discuss the idea with anyone" and a like number who said "didn't really get help from anyone." Hard to recommend that lone-wolf model, though it sure worked for some. For the others, the difficulty was in teasing out patterns. First steps? Except for developing a business plan (58% had a casual one, 21% a formal workup), fewer than half the respondents checked *any* one answer on the questionnaire. Only 45% consulted a lawyer. Only 31% met with bankers. Only 25% developed marketing materials.

As for initial plans, roughly equal numbers of respondents planned to grow slowly, planned to grow fast, and didn't plan at all. What should we make of that?

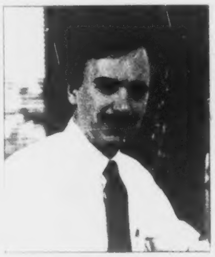
Worse, the INC. 500 CEOs weren't always happy with what they did do. More than a third, for instance, said that they went out and found partners as one of their first steps, and fully half reported that they got help from partners in developing and implementing their idea. But later, when we asked what had gone wrong with their plans, "trouble with partners" was the single most common refrain. "Have no partners," advised one, mincing no words.

'We knew the customers—many, many customers—and how to deal with them. We knew just what they wanted.'

—Bobby N. Frost

And yet—there was a surprise or two buried in the developing-the-idea section of the questionnaire. We expected "spouse" to rate high as a source of help; we were right. We also expected "potential backers" and "professional advisers" (lawyers, accountants, etc.) to score high. We were wrong. Instead, respondents told us they got help from potential customers and colleagues in the same industry; nearly a third cited potential suppliers. What gave them their competitive edge, we discovered, was that they had the contacts and knowledge necessary to weave familiar threads into new patterns.

Take Jim Hanahan again, founder of the company that administers self-insured health plans. After 23 years with Connecticut General, Hanahan knew how much his target customers were paying in insurance premiums. He knew how much their rates had gone up, and how much, on average, went to pay benefits. He had the contacts to arrange for caps on potential customers' liabilities through Lloyds of London.



'If you're starting out and don't know what you're doing, the first thing to do is get somebody who does.'

—Mark S. Smith

BOB BARRETT GAMMA LIAISON

His early discussions with prospects were simple. Imagine you bought in with us today, he'd say, and we'll track your premiums and potential savings over the next 12 months. His first full year in operation generated only $100,000 in revenues. But five years later he was up to $4.5 million.

Others told similar stories—of knowing an industry and the people in it well enough to utilize suppliers effectively and to create exactly what customers were looking for at a particular time.

Neil Kleeman, of Solution Systems Inc., watched one of his previous employer's customers increase their computer usage to the point where it made sense for them to set up an in-house system. That was when he approached them and offered to sell them equivalent data-processing services for 30% less than they'd been paying.

DUANE HALL GAMMA LIAISON

Robert W. Howe, CEO of Atlantic Data Services Inc. (ADS) in Quincy, Mass., was working for a bank-owned data-processing center when bank deregulation began to take hold. Observing that banks were looking for more and more customized software, he began making contacts both with software vendors (who could supply programs tailored to each customer's needs) and with potential customers. When he went out on his own he had two clients ready to sign up.

To our minds, it took surprisingly little time to set up an INC. 500 company, in most cases a few months or less. What it did take was intimate knowledge of a market. The first steps followed logically from that.

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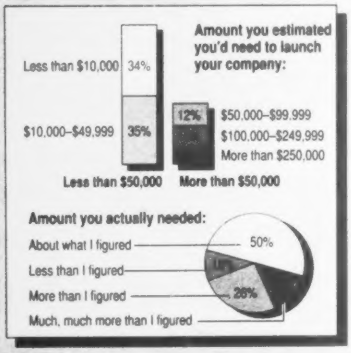
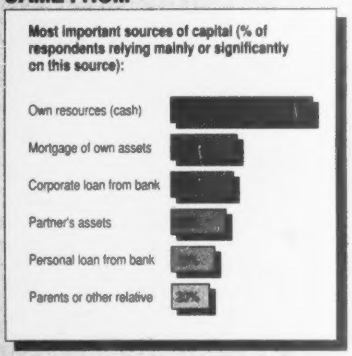
MONEY

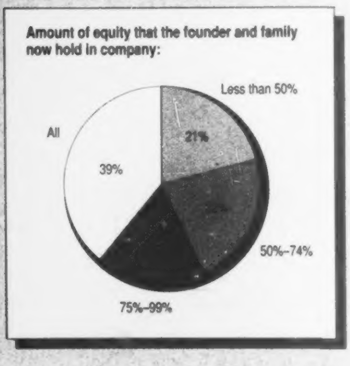
HOW MUCH MONEY?



WHERE THE MONEY CAME FROM



WHO KEPT THE EQUITY



Anyone who hasn't done it *knows* how to raise money for a start-up. You work out detailed financial plans, figure out how much you'll need, then double it. You take your plans around to friends, relatives, other potential investors. You stay away from banks; banks don't fund start-ups.

According to the experience of INC. 500 CEOs, that view is wrong, wrong, and wrong again.

Detailed financial plans? Not here; only 15% had full workups, while 41% relied on informal estimates. Another 37% said they didn't make financial plans at all, just wanted to start with as much money as they could lay their hands on.

In most cases, moreover, they didn't begin with much. *More than a third* of our respondents started their fast-growth businesses with less than $10,000. *More than another third* started with between $10,000 and $50,000.

Naïve, you say. Babes in the woods. Nope—we thought of that possibility, and asked them how much they actually needed. "Less than I figured," said 10%. "Ab[illegible] what I figured," said another 50%. Nor was there any statistical correlation between low initial estimates and needing more later.

The money wasn't hard to find: usually it was their own. Three-quarters checked "own resources" as a significant or most important source of capital; varying percentages also checked "mortgaging own assets," "personal loans from bank," and the like. When they did get an initial infusion of capital from the outside, it was much more likely to come from a bank (in the form of a corporate loan) than from a friend, relative, or equity investor. And the decisive factor, in most cases, was once again that network. "Personal relationships or business contacts" and "extensive experience in industry" were by far the most frequently cited reasons for success in raising money.

'I was on the other side of the business, trying to fight change. Then I decided, "Why not join them?"'

—Jim Hanahan

GEORGE JOHNSON

So: how do you start a multimillion-dollar business on a small nest egg? Our respondents make it sound easy.

Bill from Day One. Robert Howe of ADS got a $30,000 loan from a friend, added in some of his own and his partner's money, and set up shop as a custom programming service for banks. Since he had his clients lined up, he had a revenue stream; and in six months was able to get a $10,000 short-term loan from the bank. Jim Hanahan, similarly, kept his expenses to a bare-bones

GOING TO EXTREMES

The typical INC. 500 CEO started with a modest amount of money, most of it his or her own. Then there are the atypical start-ups:

■ **Thinnest shoestring.** Bob Rodriguez, then 20, deposited a $50 check in the bank to start his sales promotion company. It bounced. Oh, well. Rodriguez and his partner had seven or eight credit cards, used them to run up about $10,000 in debt, then lost them all. Regularly overdrawn at the bank, they survived only because an assistant manager there believed they'd succeed. Finally they landed a big account—Eastern Airlines Inc. Fortunately, Eastern accounted for only 4% of Rodriguez's sales when the airline filed for Chapter 11 protection.

■ **Most unusual source of capital.** Frederick Baker was a regional manager for C.P.S. Cablevision in 1975 when company owner James Peno fired him. Eighteen months later Peno called and asked Baker to take on some installation contracts that C.P.S. couldn't handle. Peno even agreed to lease equipment to his former employee and to countersign a $1,700 loan. With that capital Baker started his own company; 10 years later he bought Peno out.

■ **Hanging in there the longest**. James Read figured he could build a better screening plant—a piece of heavy equipment designed to sift stone and earth—than anything on the market. So in 1977 he sold his construction company's assets for $200,000 and proceeded to spend it all. Three years later he had been turned down by banks and venture capitalists, had mortgaged his house, borrowed money from friends, and spent his father's life savings—running through $600,000 in all. But his fledgling company was still struggling: by 1982 it was $300,000 in debt, including $50,000 in back taxes. Read scraped together $20,000 and could find no more—until, two days before the IRS's deadline, a customer plunked down an minimum—less than $50,000—until he had signed up some customers. He didn't borrow any money until it was time for him to buy a computer.

Develop a network of suppliers. Tom Scholl, who runs an advertising agency in Detroit, found that starting his business took more than the $10,000 he originally planned, particularly since a couple of seemingly sure customers backed out. What kept him alive was help from his friends: one who ran a recording studio, another with a broadcast production business, a third with a music company, all of them willing to work for Scholl, on spec if necessary, to help him develop his business along with their own. Jim Brett, cofounder of Brett Aqualine Inc., a California manufacturer of equipment for portable spas, took the network concept one step farther. Like Scholl he lined up support from suppliers, all of whom knew him from the industry. Then he went to one of his prime customers and explained that he needed a letter of credit in order to produce the goods. That, plus supplier credit, allowed him to begin.

Don't be shy of banks. Banks may always be skittish about start-ups, probably with good reason. But they'll often lend against hard assets to people they know and trust, even in a business's early stages. Bobby Frost, of Consolidated Glass & Mirror, estimates he and his brother got about $150,000 in bank loans in his company's start-up days, all of it secured by land, building, or equipment. All told, about one-third of our respondents got significant start-up money in the form of corporate loans from banks.

(continued)

order and a check for $58,000. The immediate crisis over, Read watched The Read Corp. grow to current sales of $45 million.

■ **Biggest spender**. Mark Ain raised $45,000 to develop his idea for a computerized tracking system for hourly employees. Then he sold $471,000 worth of stock to finance a prototype system and $608,000 worth to finance production. Once in production, he ran out of money and raised $200,000 more. Finally he realized he needed a national network to install and service his systems, and he brought in two venture capital firms for a total of $800,000. His secrets? "People say I'm one of the best raisers of capital they've ever come in contact with," says an immodest Ain. "I'd set a date for closing [each] offering, then I'd tell everyone, 'It looks like we're oversubscribed.' " They came, they saw, they invested—and Ain's company, Kronos Inc., is finally making money.

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Second Anniversary.
Third Anniversary.
Fourth Anniversary.
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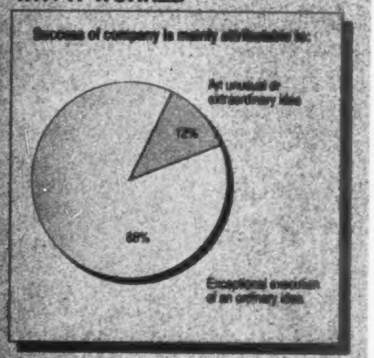
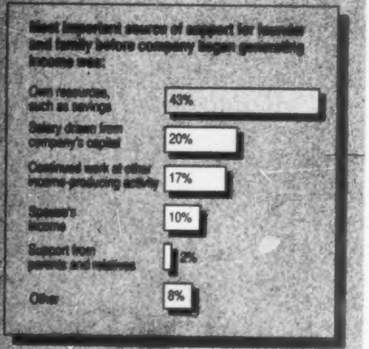
NETWORKING

WHY IT WORKED



SURVIVING START-UP



How nice it would be if all our questions—about background and business ideas, about getting started and raising money—led to some simple lessons: How to Create an INC. 500 company.

Alas, we found no magic key. Did you think you hit upon an extraordinary idea for a business? we asked them. No—only 12% thought so. Was it the carefulness of your planning? No again—a sizable fraction said they didn't plan much, and plenty said their plan ran into major obstacles. A few mentioned hard work, drive, determination as the important factors in their success. We know the importance of these qualities—but we also know a lot of entrepreneurs who drive themselves as hard as anyone and barely keep their heads above water.

But there *were* those themes that kept cropping up among otherwise disparate stories, the themes of Hanahan, Smith, Frost, and the others. These company builders had extensive experience in an industry. They had spent years developing networks of contacts and colleagues, had come to be known and trusted. When an opportunity came along they knew enough to spot it—and to develop their business idea with the people who later would be partners, customers, suppliers. Some even drew on this same network for start-up capital. In effect, they assembled a group of people, all of whom played a role in the creation of a new business.

This cooperative venturing isn't entrepreneurship the way it's usually thought of, the cowboy company-founder who sets out to conquer the marketplace alone. But—since this is the INC. 500 we're talking about—it may be entrepreneurship at its most successful.

HOW THE SURVEY WAS CONDUCTED In early February we sent an eight-page questionnaire to the 2,300 companies that have appeared on the INC. 500 list since it was introduced in 1982. We received a total of 665 usable replies, for a response rate of 29%. Survey results were tabulated by Data Tabulation Services Inc., of Stoneham, Mass.

The survey was conducted under the direction of special projects editor Sara Baer-Sinnott. Additional research was provided by Elizabeth Conlin, with assistance from Mary Harbaugh, Ann Mueller, and Julie Rasicot.

WHO THE RESPONDENTS ARE The oldest respondent to our questionnaire, B. D. (Bernie) Effron of Economy Restaurant Equipment Inc., is 72. The youngest, Sam Means of Pennsylvania Computer, is a full half-century younger. The biggest company is Thomas Wathen's Pinkerton's Inc. ($650 million in sales), while the smallest is James W. Clifford's Associated Images Inc. ($90,000), which has redefined its business focus since making the INC. 500 in 1984 and 1985.

If you want typical, however, here's typical. Median age of respondent: 43. Median sex (so to speak): male (only 5% are women). Median number of employees: 70; median revenues: $7.7 million. Some 43% of respondents work in service businesses, with 26% in distribution and retail, and 23% in manufacturing.

YOUR BASIC GOOD CAREER MOVE

The conversion of Neil Kleeman

"You tell people you're going into business for yourself," says Neil Kleeman, "and they all say, gee, you're really brave. But courage really didn't enter into it." In fact, to hear Kleeman tell it, starting Solution Systems Inc. wasn't terrifying or lonely or any of those other things that entrepreneurship is supposed to be—at least not at first. It was simply a logical career move.

"I was doing the same thing—computer time-sharing—for United Computing Systems (UCS), a subsidiary of United Telecommunications Inc., which now includes U.S. Sprint. Back before the breakup of AT&T, United Tel was the third biggest phone company. It had set up UCS as a national time-sharing business doing database management and scientific/engineering computing. I worked there six years, in the field, doing sales and support work. And I had reached a point where, to get any further, I was going to have to move to corporate headquarters in Kansas City."

Kleeman, then 33, wasn't wild about leaving Philadelphia, particularly since his wife wanted to know how often he'd come back to visit her. And then there was the matter of money. As he'd moved up in UCS, from managing the Philadel-

EUGENE MOPSIK

Neil Kleeman of Solution Systems
Going it alone just made sense.

phia office to a regional marketing position to product responsibility for the entire East Coast, he'd moved from one incentive system to another—and had seen his income drop two years in a row. He contemplated a lateral move in the industry, going so far as to talk with Sun Information Systems, another time-sharing company. But at Sun he wouldn't have been on commission at all—"it just wasn't the same opportunity to make money." And besides, he smelled the same lack of independence that had bothered him at UCS. "It was the big-company thing, the politics, never being sure whether you're trying to sell a product or just advance yourself in the company."

So—what the hell—Kleeman began thinking about going out on his own. In a way, it was the easiest decision in the world.

The notion of starting a business, for example, was neither alien nor scary. His father ran a dry-cleaning company that Kleeman worked in all through high school. And he knew the time-sharing industry. "I'd developed all kinds of contacts through UCS. I knew suppliers; I knew potential customers." He also knew that the technology was changing fast, and that the necessary computing power could be acquired for much less money than even a few years earlier. He did spreadsheet after spreadsheet—"on UCS computers, of course"—until he'd convinced himself that his numbers were both encouraging and accurate. Operating with a fraction of his competitors' overhead he could offer competitive services—and at more than competitive prices. On a weeklong cruise to the Caribbean with his wife and two friends, Kleeman talked over his plan. By the end of the cruise he had made his decision.

Taking the first steps wasn't much harder. Kleeman's livelihood wasn't in jeopardy: he was still employed by UCS. And he knew just what to do. He met with Prime Computer Inc. and Digital Equipment Corp., to explore hardware options. He liked Prime's deal, but quickly realized his embryonic venture would never be entrusted with the lease of a $300,000 computer. So he approached his friend Bill Leishear, president of an architecture/engineering firm known as The Sigel Group.

Sigel, Kleeman figured, was in a good position not only to be his first customer but to buy his computer. "Their usage of outside computing was growing—both for architectural and engineering analysis and for project management, control, accounting, and so on. One way to control those costs was to bring a computer in-house. But if you do that you open up another set of problems—hiring new people, doing the programming, taking care of the administration and maintenance of the machine." The solution Kleeman proposed to Leishear: you buy the computer and lease it to my new company. We'll provide you with all your data-processing needs. The numbers, he knew, showed that Sigel could save money—and that the new business would have computer time left over to sell to other customers.

Kleeman had taken his cruise in February 1981. By June he had worked out a deal with Sigel and Prime; in early August he quit his job, with money from his parents to help get Solution Systems up and running. In September the computer arrived. A couple of early employees came over from UCS. With equipment, a customer, working capital in the bank, and employees, Kleeman was finally in charge of his own company. And for the first time he was feeling a little nervous.

Selling, for example, wasn't quite the same game when you were playing with your own money rather than the house's. "We had one client we thought we had really nailed down," says Kleeman. "I say 'we'—that's because I made a conscious effort early on not to say 'me,' so the company would appear bigger than it was. But at the time it was all me.

"Anyway, I had talked to [that client], and said, look, if I start my own business, would you come over? And they said, yeah, they'd talk. So when I left UCS I went into high gear on these people and made them some specific offers that were *very* financially attractive deals. I was getting lots of nods of approval. And then the business was sold. So we kind of regrouped and started talking to the new owners. And it was sold again. It ended up taking months longer than we thought."

Right around then, says Kleeman, it began to sink in. "I kept thinking, what have I done? Why did I do this? Who needs this aggravation?" It wasn't just his own livelihood, he realized, that was at stake; he also felt responsible for the people he had brought on as employees, and of course for Leishear's computer. So while he figured he himself could always find a job, maybe even go back to UCS, he didn't feel free to quit. That, says Kleeman, taught him something about himself. "I always thought that I was a hard worker. I'd see a specific job and do whatever I had to do to get it done. But perseverance—that wasn't a big part of what I thought was me. And there I was in a situation where I just couldn't think of quitting as an option."

For Kleeman—as for most of the other entrepreneurs who built INC. 500 businesses—the story has a happy ending, with revenues doubling and redoubling as several new clients signed up; today Solution Systems does close to $2 million in sales with 12 employees. Getting there, he acknowledges, took a little longer and turned out to be a good deal harder, both practically and emotionally, than he expected.

But taking the first step? The marketplace has its own logic, and if it hadn't been Kleeman it might have been someone else starting a new time-sharing company. For if there's one thing our survey shows, it's that a lot of new niches have been opening up. When they do, there are likely to be people who have worked in and around those industries who can spot the opportunities the new niches represent, and who can construct new companies out of their experience, contacts, and hard work.

Kleeman with computer system

'It was the first time I couldn't think of quitting as an option.'

HANDS ON

A Manager's Notebook

TIME MANAGEMENT

LOOKING AHEAD

[illegible]

[illegible] two-hour session to "talk to himself." He prefers to do it early in the morning — "when my mind is uncluttered" — and away from the office, so he won't be interrupted.

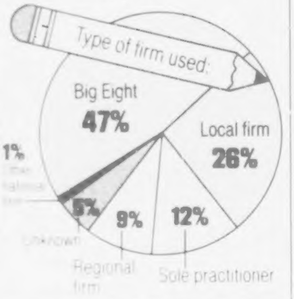
"This isn't fill-in work between appointments," Patterson says. "Yet that's how too many executives treat it. That can get a company in trouble."

FINANCE

HOW DID YOU CHOOSE YOUR ACCOUNTANT?

Typical company respondent
$[illegible] million in sales
43 employees, seven years old
61% growth over the past three years

Accounting firm chosen after recommendation by:	
Business acquaintance	44%
Own study	30
Other	19
Lawyer	10
Banker	8



[illegible] Technology Entrepreneurs Evaluate Their Accounting Services [illegible]

CUSTOMER SERVICE

PHONE MANNERS

[illegible] an average of 45 seconds. He decided to get it down to 30 seconds, and that the way to do that was to tie the phone bill to Comtrac's monthly departmental bonus-point system. If the 30-second goal is missed, no bonuses—which had been adding as much as 20% to employees' paychecks. If the goal is reached, employees qualify for the departmental bonuses and receive extra points. Operators now direct calls more carefully, dispatchers take more messages, and Comtrak has hired an additional dispatcher. Bruns reports that the goal has been met in 7 of the 10 months the system has been in place.

MOTIVATION

TAKE A BREAK

Keeping your retail sales staff motivated doesn't require a trip to Hawaii. You can do something as simple as providing an area for watching television when times are slow or for catching a bite to eat.

Although he sacrifices stock space for his stores' break areas, Joel Luck, CEO of Joel's StrideRite Booteries, in Columbus, Ohio, says it helps his sales. "If you take good care of employees," he says, "they'll take good care of customers."

Each of Luck's five stores has an employee area complete with kitchenette, an unusual amenity in a mall. "The people who normally make the rules for these stores have never worked in one," says Luck. In his first store, he found he missed having a spot where he could eat lunch and still be on hand to wait on customers. "My employees really appreciate this. And they don't mind interrupting their lunch and pitching in if business picks up."

RECRUITING

MONEY ISN'T EVERYTHING

It can be tempting to lure a prize performer to your company with higher pay, but Tom Bayliss, for one, disagrees. Bayliss, CEO of Tab Electric Supply Inc., in New Bern, N.C., says, "If someone comes to Tab for the money, they'll leave here for more money, too." So he doesn't make those offers.

Bayliss credits the hiring policy with helping create a spirit of camaraderie in the company. "When money is the prime mover for joining a company, chances are the employee could have a bad attitude."

According to Bayliss, none of Tab's 25 employees have defected since the company was founded six years ago. And, he says, industry statistics show Tab employees to be twice as productive as the norm. Word's gotten around about Tab, too. Bayliss hasn't yet had to place a help-wanted ad.

COMMUNICATIONS

MAIL CALL

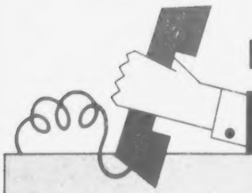
Want to keep close tabs on just how your company's doing? You're probably delegating away one valuable source of information: the daily mail.

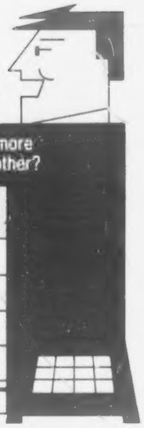
Don't underestimate it, say the folks at Paramount Flag Co., a $1.2-million San Francisco flag manufacturer. Each morning the seven managers gather and open each piece. "There's a definite pleasure in seeing what's in the envelope," says Christophe Morin, Paramount's president. "If it's a purchase order, great. If it's a big bill from a supplier, we'll look at why it's so high. If someone's returning a $2 flag, everybody understands how important details are to the future of the company."

But isn't the managers' time really better spent on other matters? Nope, Morin says. "It only takes half an hour, 45 minutes at most. And we never have to have formal meetings, because we get together every day." The idea, by the way, came from Paramount's parent company, Doublet, a $30-million French manufacturer where executives still chip in every morning at mail time.

CHARTS: CYNTHIA DAVIS

HANDS ON





MARKETING: WHO LIKES YOU FOR YOUR TOLL - FREE NUMBER?

If a company has an 800 number you can call for information or a complaint, does this give you more confidence, or less confidence in the company, or does it affect your confidence one way or the other?

		AGE				OCCUPATION		
	Total	18-29	30-44	45-59	60+	Executive/ professional	White-collar	Blue-collar
More confidence	48%	50%	53%	44%	41%	57%	51%	44%
Less confidence	1	2	2	1	1	1	3	1
Doesn't affect confidence	46	44	42	52	50	41	45	51
Don't know/no answer	4	4	3	3	8	2	2	5

Source: *Roper Reports*, The Roper Organization, Inc., 1988, based on 2,000 face-to-face interviews with adults age 18 and over

SELLING

GETTING ON LINE

Putting your company's catalog into software form may not be just a smart option—it may be the best way to compete for customers who are doing more and more of their work with computers.

Two years ago Taco Inc., a 60-year-old Cranston, R.I., pump manufacturer, decided that the engineers who buy its products would have an easier time if the catalog were available as software—the software's graphics capabilities would allow customers to figure out which pump configurations would best meet their needs without spending hours at their calculators.

"We felt engineers who were already using computers would jump at the option of avoiding a manual catalog," says John White, vice-president of sales and marketing. The cost of the program and its updates varies, but a typical package might go for around $100. With the new system, White says, not only are customers making their choices faster, but new customers are coming in as well.

MANAGING PEOPLE

WHAT MOTIVATES MANAGERS?

	Important or very important	Factor exists at work
Challenging work	97%	88%
My opinion matters when decisions are made	96	69
Recognition when I've done a job well	91	55
Pay clearly tied to my performance	89	50
Working for a company I can be proud of	87	79
Good, fair performance measures	85	39
Autonomy on the job	82	66
Competitive salary	81	81
Clear performance goals	78	40
Opportunity to learn on the job	76	77
Clear career opportunities	74	26
Harmonious relationships with my co-workers	71	75
Job security	59	58
Generous benefit program	54	68
Special incentives (merchandise, travel)	9	11

The five factors in red indicate the greatest disparity between what managers value and its availability in their workplace.

Source: From a 1988 survey of 383 American Productivity & Quality Center members, 171 of whom identified themselves as top management and 198 as middle management

RESOURCES

DIRECT MAIL

Thinking of using the U.S. mail to get new customers? Or to serve the ones you already have? If you're not familiar with the basics of direct mail, Quill Corp., with 32 years of experience in direct-mail campaigns, may be able to help you out. It publishes a primer, *How to Compile and Maintain a Mailing List*.

The 40-page booklet spotlights what to include in a database, how to judge the value of a name, how to keep a list duplicate-free, in-house sources for names, and types of out-of-house lists and where to get them. It also catalogs software and supplies a list of further reading. The booklet is available free from Quill Business Library, 100 South Schelter Road, Lincolnshire IL 60069.

OPERATIONS

MAKE NO MISTAKE

How do you get your employees to learn from one another's mistakes? John Thomas, CEO of Dakota Systems, a mechanical contractor in Andover, Mass., decided to go with the light touch.

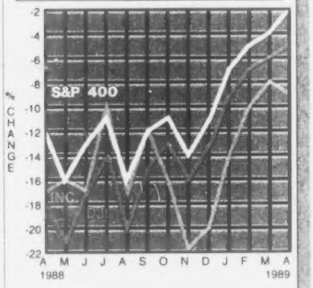
A few years ago Thomas pulled a $450 "mistake" out of the company's dumpster, mounted it on a plaque, and named it the "no-nuts award"—for the missing parts. A presentation ceremony followed at the company barbecue. "You can bet no one makes that mistake anymore," Thomas says. "The winner, who was initially embarrassed, now takes pride in the fact that his mistake has saved this company a lot of money."

Another big winner was the ambitious employee who experimented not with 80¢-per-foot copper tubing, but with $12-per-foot stainless tubing—because it was handy. The award presentation has become an annual event, with the "prizes" on display in the company's conference room. Thomas estimates that the lessons learned from the good-natured ribbing save him about $3,000 a year in materials alone.

Reported by Leslie Brokaw and Teri Lammers

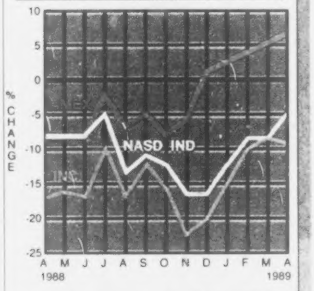
INVESTING IN GROWTH COMPANIES

INC. vs. CONSERVATIVE AVERAGES



All averages start at 0 in October 1987.

INC. vs. SPECULATIVE AVERAGES



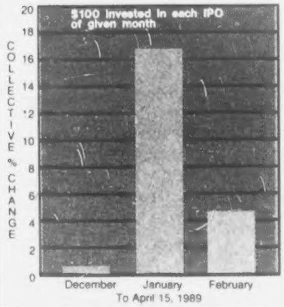
All averages start at 0 in October 1987.

INITIAL PUBLIC OFFERINGS: MARCH 1989

O-T-C sym.	Company	Business/product	Offering Size ($mil.)	Offering Price	First aftermarket bid	Underwriter
AGRS	**Agristar**	Dvlps. containers for plant storage & shipment	5.00	1.25	1⅞	Nelson Securities
AST[b]	**Aim Strategic Income Fund**	Closed-end fund	57.00	10.00	10	Paine Webber
ABAE	**American Body Armor & Equipment**	Mfrs. & distr. bulletproof garments	4.00	4.00[d]	5⅝	Commonwealth
a	**Amsterdam Capital**	Blind pool	0.22	5.50[e]	5½	Westminster
AFWY	**Arkansas Freightways**	Trucking co.	15.84	12.00	13¾	Stephens
BNTNU	**Benton Oil & Gas**	Oil & gas exploration	3.50	5.00[f]	5¼	Paulson Investment
EMONU	**Environmental Monitoring & Testing**	Monitors & tests groundwater	1.50	5.00[g]	8	Alison Baer
JERIU	**Journey's End Resorts**	Operates Caribbean resort	2.13	5.00[f]	4⅝	Anderson
KILSF	**Keller Industries Ltd.**	Repairs & rehabs water-main pipelines	2.03	6.75[h]	7½	Levco Securities
KSM[c]	**Kemper Strategic Municipal Income Trust**	Closed-end fund	120.00	12.00	12	Smith Barney
PRST	**Presstek**	Page composition & printing systs.	6.50	5.00[f]	5⅝	Whale Securities
PURTU	**Pure Tech International**	Dvlps. process for recycling plastics	5.20	4.00[i]	5½	D. H. Blair
RBFIU	**Richard Barrie Fragrances**	Dvlps. & mkts. personal-care prods.	3.00	5.00[j]	4⅞	Russo Securities

Initial public offerings sold at $1 or less not included. First aftermarket bid is approximate. [a] no symbol; [b] trading on AMEX; [c] trading on NYSE; [d] 750,000 shares were offered by stockholders; [e] units of 1 common + 15 Class A warrants + 15 Class B warrants; [f] units of 1 common + 1 warrant; [g] units of 4 common + 1 warrant; [h] units of 3 common + 2 warrants; [i] units of 4 common + 4 warrants; [j] units of 2 common + 1 warrant. Offering data source: *GOING PUBLIC: THE IPO Reporter*, a publication of The Dealer's Digest Inc., 150 Broadway, New York NY 10038.

IPOs IN THE AFTERMARKET



To April 15, 1989

STREET TALK Let it be admired that the world's largest corporation can cost-cut as effectively as the leanest and meanest of small businesses. Indeed, maybe even better. As thousands of cushy desk jobs were sent the way of the Fiero, the enhancement of GM's first-quarter earnings shows what can be done to fortify an operating statement merely by examining the productivity of middle management. No doubt it's easier for GM cold-heartedly to terminate a white-collar worker than for a more modest enterprise to give Bob Cratchit in accounting his walking papers. But, as Wall Street forced GM to see, you can't eat sentiment.

Among other blue chips, GM's staunch price performance has helped the market push close to October '87 levels. Is it safe to say that the Crash was, after all, a quirk? In an economical sense, yes: the Fed reacted intelligently, and there has been no recession, both interest rates and inflation have stayed within reason, foreign stock markets haven't collapsed, the dollar has held its own. But in a technical sense, the same danger still lurks. This corner has never doubted that Black Monday was largely caused by big-money computer-trading programs. Unfortunately, the elitist New York Stock Exchange and the not-really-on-the-side-of-the-little-man SEC have done little to protect small investors from a similar catastrophe.

—*Robert A. Mamis*

CHARTS: IMAGEBUILDER DESIGN

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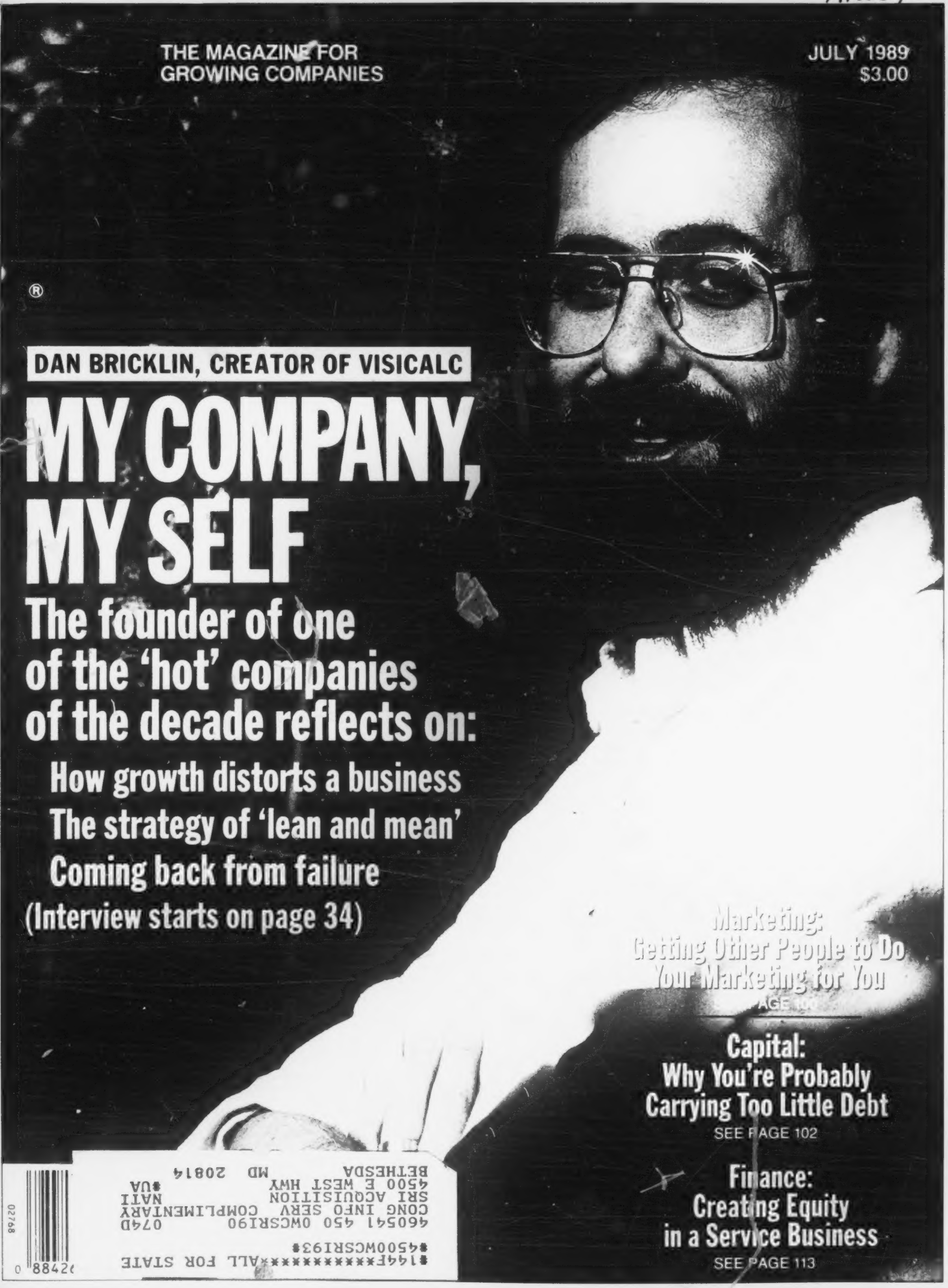

DAN BRICKLIN, CREATOR OF VISICALC

MY COMPANY, MY SELF

The founder of one of the 'hot' companies of the decade reflects on:

How growth distorts a business
The strategy of 'lean and mean'
Coming back from failure
(Interview starts on page 34)

Marketing:
Getting Other People to Do Your Marketing for You
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Capital:
Why You're Probably Carrying Too Little Debt
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Finance:
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SEE PAGE 113

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Mark Alcarez

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LETTERS

People Express may no longer exist as a business, but its essence will live on through those who were a part of the organization. It was more than a place to work—it was a place to experiment; to develop and unleash creative talents; to learn, learn, learn; and to *enjoy*. It was a place to build an identity, and the identity I built there is the foundation that keeps me striving for excellence in all endeavors. I thank Don Burr for that. It was our airline, but only because he allowed it to be.

Katherine W. Anderson
Orlando

Another reader responded to an item about a start-up in the field of electronic bill paying (Insider, April), which had described Merchant Network Inc. as "the first third party to enter the market."

Actually, the first third-party firm was Telephone Computing Services, founded by Howard Phillips, whom many consider the father of pay by phone. The company never had more than 100 employees, of which I was one. After a series of owners, it closed its doors in 1988. Its database is now being used by Checkfree Corp., an entrepreneurial firm based in Columbus, Ohio, that began offering third-party, PC-based bill payment last fall.

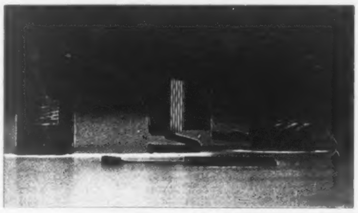
Judith Kernan Hofeditz
Electronic Banking Specialist
Security Pacific Bank Washington
Seattle

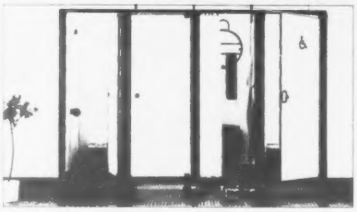
Then there was this request.

I've got a bone to pick. You write in your April issue about some revolutionary products—Steve Jobs's new NeXT computer and also the bathroom partitions from Thrislington Cubicles ["With a Little Help from His Friends"]. Why don't you show us what these products look like?

James D. Cohen
Chairman
Entrepreneurial Society of Cincinnati
Cincinnati

OK, here they are. That's the computer in the top photo, by the way.





HOUSE OF CORRECTIONS

Finally, we'd like to correct a few errors in our May issue. In the INC. 100 chart on pages 96–102, L.A. Gear's net income for 1988 should have been listed as $22 million (not $22,000); Texcel International is based in Mineola, N.Y. (not Newark, Del.); and Matt Edwards (not Stephen Katz) is the founder of Nationwide Cellular Services.

One other note: we reported in the May Letters that Max DePree's Leadership Is an Art *is published by Michigan State University Press. Unfortunately, that edition is now out of print. The good news is that Doubleday will come out with a new edition in September.*

INC. wants to know what you think. Please address all correspondence to INC. Letters Editor, 38 Commercial Wharf, Boston, MA 02110, or call our editorial commentary line toll free at (800) 444-1756. (Messages will be recorded.) Please include name, address, and telephone number for verification. Letters must be signed, and all correspondence may be edited for space and style.

SCORECARD

A breakdown of the mail

Here's a list of the subjects on which we heard from readers this month, along with their respective percentage of the total mail.

SUBJECT	PERCENT
Focus: What's Small? (letter from a reader)	44%
Kudos for INC. (on the 10th-anniversary issue)	9
Letter from the Founder (by Bernard A. Goldhirsh)	9
Criticism of INC. (too few women and minorities)	8
Entrepreneur of the Decade (Steve Jobs interview)	4
Doubting Thomas (by Tom Peters)	4
Other April articles	12
Miscellaneous	10

HANDS ON

A Manager's Notebook

GETTING STARTED

BLOWING YOUR OWN HORN

Starting a new business can be a pretty lonely endeavor. For one thing, there's nobody around to spur you on—or to give you a pat on the back when things go well. Back in 1981 Max Carey, CEO of Corporate Resource Development Inc., was frustrated by what seemed to him the slow progress of building his Atlanta-based sales- and marketing-services company. He had just one part-time employee, and "big successes were too far into the future," he says. "There wasn't much to motivate us."

His solution? "We decided to celebrate the small interim successes."

Carey went out and bought a siren, complete with megaphone and ambulance sound effects. After making a phone sales pitch, he would blow the horn if he had been able to bypass a training director and had reached a CEO. If a big check came in the mail, off went the siren. Now, the $1-million-plus company has 11 employees—and the siren goes off about 10 times a week. People come out of their offices to hear co-workers brag about their latest achievements, which helps companywide communications as well. "And it's a great motivator for our less experienced employees," Carey says, "who aren't yet able to produce at top levels." ☐

RESOURCES

LOOK IT UP

To evaluate the creditworthiness of customers, vendors, and suppliers, reach for the reference book used by bankers. *Annual Statement Studies* can tell how long you can expect collections to take, how much inventory a supplier is likely to have on hand, and typical profit margins for more than 345 industries.

Balance-sheet and income-statement data are presented for businesses with assets totaling up to $1 million, $1 million to $10 million, $10 million to $50 million, and more than $50 million. Also included are 16 ratios commonly derived from such information. Tom Bennett, executive vice-president of the Stillwater National Bank, in Tulsa, says the book is a handy way to judge your performance against your peers.

The book sells for $54.50, prepaid. Write Robert Morris Associates, 1650 Market Street, 23d Floor, Philadelphia PA 19103-9734. ☐

BANKING

READING THE FINE PRINT

If you are having a hard time getting bankers to understand your business, consider letting a trade magazine do some of the explaining for you. Mark Winward, CEO of Jane Ink Inc., in Seattle, was in a business with an image problem: silk-screening and embroidering T-shirts. "All bankers could think of was sex, drugs, and rock and roll, while I tried to get them to think of Boeing golf shirts." Sending subscriptions of trade magazines to prospective and current bankers, Winward says, added an element of credibility to his appeal that his financials couldn't. The bottom line? Winward boasts a $500,000 credit line to feed his $3.5 million in sales per year. ☐

SELLING

IN THE TERRITORY

How many times has it happened: you call on a customer who puts you off by asking you to return in a couple of weeks? Trouble is, in a couple of weeks you're working a territory 100 miles away.

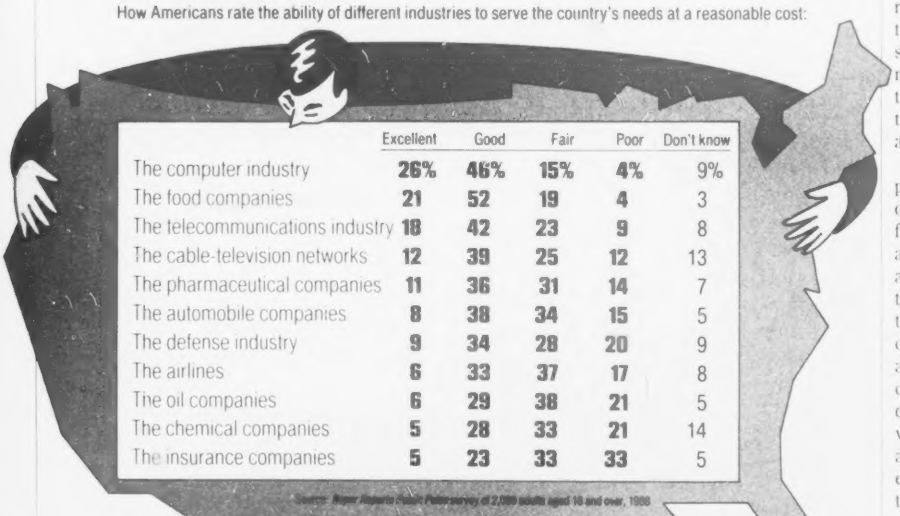
Tony Frederick thinks he's solved that problem. Frederick, CEO of FrederickSeal, Inc., in Bedford, N.H., a marketer of industrial sealing devices, divides each of his salespeople's territories into nine geographic areas of roughly equal size. The key to Frederick's system is the sequence of visits, which makes it easy for salespeople to revisit customers who ask them to come back in a few weeks.

Every month each salesperson concentrates on three of the nine areas. During the first week they cover one area; week two, they travel to an area on the other side of their territory; week three, they return to an area adjacent to the first, completing any unfinished calls while crossing the territory; and during week four they service key accounts in all three areas. The process is repeated during the second and third months so that by the end of each quarter, the territory has been covered. ☐

PUBLIC RELATIONS

THE BIG PICTURE

How Americans rate the ability of different industries to serve the country's needs at a reasonable cost:



	Excellent	Good	Fair	Poor	Don't know
The computer industry	26%	46%	15%	4%	9%
The food companies	21	52	19	4	3
The telecommunications industry	18	42	23	9	8
The cable-television networks	12	39	25	12	13
The pharmaceutical companies	11	36	31	14	7
The automobile companies	8	38	34	15	5
The defense industry	9	34	28	20	9
The airlines	6	33	37	17	8
The oil companies	6	29	38	21	5
The chemical companies	5	28	33	21	14
The insurance companies	5	23	33	33	5

Source: Roper Reports Public Pulse survey of 2,000 adults aged 18 and over, 1988

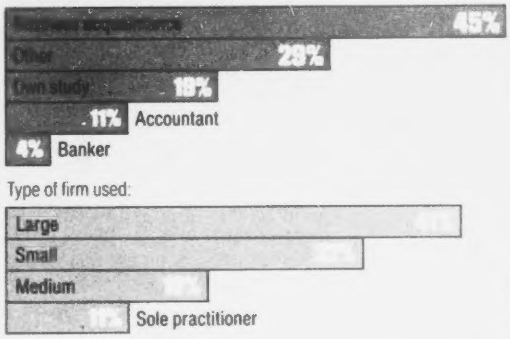
CHARTS: CYNTHIA DAVIS

HANDS ON

THE LAW

HOW DID YOU CHOOSE YOUR LAWYER?

How 126 high-technology businesspeople with an average $5 million in sales and 50 employees chose their law firm:



Totals exceed 100% because of multiple responses

Source: *Technology Entrepreneurs Evaluate their Legal Services*, a survey sponsored by the Technology Executive Roundtable, a group of more than 1,000 CEOs, COOs, and board members of technology-related businesses

CUSTOMER SERVICE

TITLE FREE

Customers don't care about the title of the person they speak with—they just want prompt, efficient service. At least that's what Michael Resnick, of Today's Temporary, based in Dallas, believes. To drive home his point, he has left titles off all business cards used at the $42-million agency.

"If the cards said anything, they'd all read 'Service Rep,' " says Resnick, whose own cards could, but don't, read "President." While the company uses job descriptions internally, Resnick says he's seen too many people get hung up on titles and become removed from the customer. "We want to make sure clients don't have to go through hierarchies," he says. "We want them to know that anyone they call can answer their questions."

Of course, that requires more than plain business cards. Resnick says Today's Temporary, a two-time INC. 500 company, follows through by "empowering frontline people with the authority to find answers." Operations managers (who take the initial calls from clients) supervise and send out the workers and handle every other aspect of client service, from pricing questions and quality-control follow-up to arranging credit for any unsatisfactory service. ☐

OPERATIONS

QUALITY TIME

Are you getting what you pay for in overtime? Two years ago Jim Read crunched some numbers and confirmed his suspicions: no more was being produced in the 10-hour days that had become standard in his company than had been produced in the bygone era of 8-hour days before The Read Corp.'s business picked up.

"Faces were down, production wasn't up, and there were more accidents," Read concluded after studying the productivity of his Middleboro, Mass., gravel-screening-equipment manufacturing plant. Read was worried, though, that going back to 8-hour days would be hard on his employees, who "had become accustomed to living on the wages of a 55- or 60-hour workweek."

Read now says no to overtime for factory and office employees alike and schedules a second shift instead. But he compensates for the lost pay by issuing three extra paychecks a year, made possible in part by a more efficient factory floor. ☐

COMMUNICATIONS

NOW READ THIS

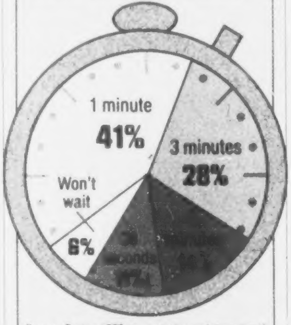
Ever wonder how many employees read your company newsletter? The answer is of vital importance to Harry Featherstone, president and CEO of The Will-Burt Co., in Orrville, Ohio, who uses the company newsletter as a way to educate his employees about the company's employee stock-ownership plan. To encourage readership and discussion, Featherstone occasionally includes a quiz on the big story of the issue, complete with a dinner-for-two certificate for the employee who answers the most questions correctly.

Featherstone's reasoning? "I thought it would make employees talk about the story among themselves and learn the material better." Roughly 10% of Will-Burt's 300 employees vie for the prize each month. ☐

SALES

JUST A SECOND!

More than half of the 500 executives surveyed at five major trade shows wouldn't wait more than a minute for a sales representative at a booth. Here's how the numbers break down:



Source: From a 1989 survey by Incom International, Chicago, a trade-show training and research organization

ENVIRONMENT

AN EYE ON SUPPLIES

At Clean Harbors Inc., a $100-million Quincy, Mass., INC. 100 company that analyzes, cleans up, and transports hazardous waste, guidelines for purchasing office supplies include:

☐ Paper, not Styrofoam, drinking cups

☐ Biodegradable hand soap for bathrooms

☐ Recycled paper for stationery

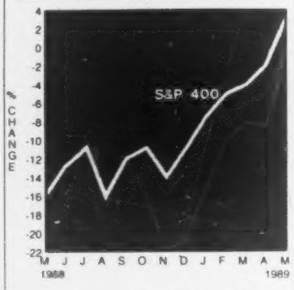
In addition, Clean Harbors forgoes putting salt on the company parking lot after a snowstorm, using only a plow instead.

"The costs associated with these guidelines are negligible in real dollars," says media-relations manager Karen Clancy, "and in many instances actually save money. But the long-term environmental savings are tremendous." ☐

Reported by Leslie Brokaw, Teri Lammers, and Stephen D. Solomon

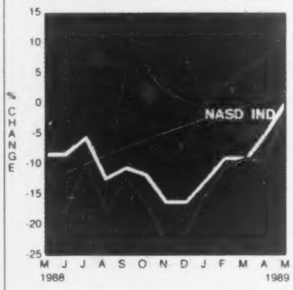
INVESTING IN GROWTH COMPANIES

INC. vs. CONSERVATIVE AVERAGES



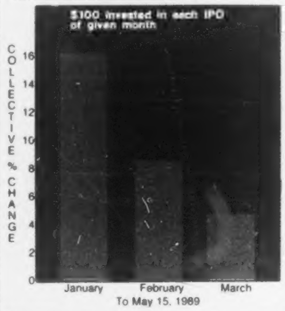
All averages start at 0 in October 1987

INC. vs. SPECULATIVE AVERAGES



All averages start at 0 in October 1987

IPOs IN THE AFTERMARKET



INITIAL PUBLIC OFFERINGS: APRIL 1989

O-T-C sym.	Company	Business/product	Offering Size ($mil.)	Offering Price	First aftermarket bid	Underwriter
BYTX	**Bytex**	Mfrs. computer-switching equipment	10.80	8.00	8	Alex. Brown
CID[a]	**Chieftain International**	Acquires U.S. & UK assets of Chieftain Development	27.84	13.50[b]	13⅝	Bear, Stearns
COND	**Condor Services**	Insurance placement agency	8.25	7.50	7⅝	Baird, Patrick
ENCL	**EnClean**	Provides industrial & environmental cleaning svcs	6.75	6.75	7⅞	Chicago Corp
MCTL	**Microtel Franchise**	Develops chain of discount motels	3.00	6.00	7¾	Starr Securities
MZLUU	**Mizlou Communications**	Produces & distributes televised sports events	3.90	6.00[c]	7½	Commonwealth
SEVN	**Sevenson Environmental Services**	Provides hazardous-site cleanup svcs	23.10	16.50	17¾	Paine Webber
SPLS	**Staples**	Operates office-supply supermarkets	51.30	19.00	22½	Goldman, Sachs

Initial public offerings sold at $1 or less not included. First aftermarket bid is approximate. [a] trading on the AMEX; [b] an additional 2.062 million shares were offered in the Canadian market; [c] units of 6 common + 6 warrants. Offering data source: *GOING PUBLIC: THE IPO Reporter*, a publication of The Dealer's Digest Inc., 150 Broadway, New York NY 10038

STREET TALK As of mid-May, INC.'s proprietary index had at last recovered (within a percentage point anyway) from the shock of '87. That ours was the last to claw back underscores the point that money managers still view rapid revenue growth with suspicion. Some typical concerns: a company has used too much debt to buy sales, has given away too much in making acquisitions, doesn't have follow-up products, lacks competent middle management. You can add to this the phenomenon that many professionals simply don't understand what's happening in young companies. Indeed, more than one we have chatted with admittedly eschews their stocks only because the products are mysterious.

For example, Peter Lynch, the head of Fidelity Management & Research's $9-billion Magellan Fund, is a firm believer in knowing exactly what a company sells before investing in it. It took somebody at Fidelity ordering 60 Macintoshes before Lynch, an admitted nontechnologist who was willing to load up on Chrysler on the basis of its new models, realized Apple Computer might be worth looking into. As this attitude becomes increasingly the case, one sector in which an informed public player can outplay the pros is among emerging high-tech companies. Nowadays an investor can find out more about potentially profitable trends in technology from a local computer club than a Wall Street analyst.
—Robert A. Mamis

CHARTS: IMAGEBUILDER DESIGN

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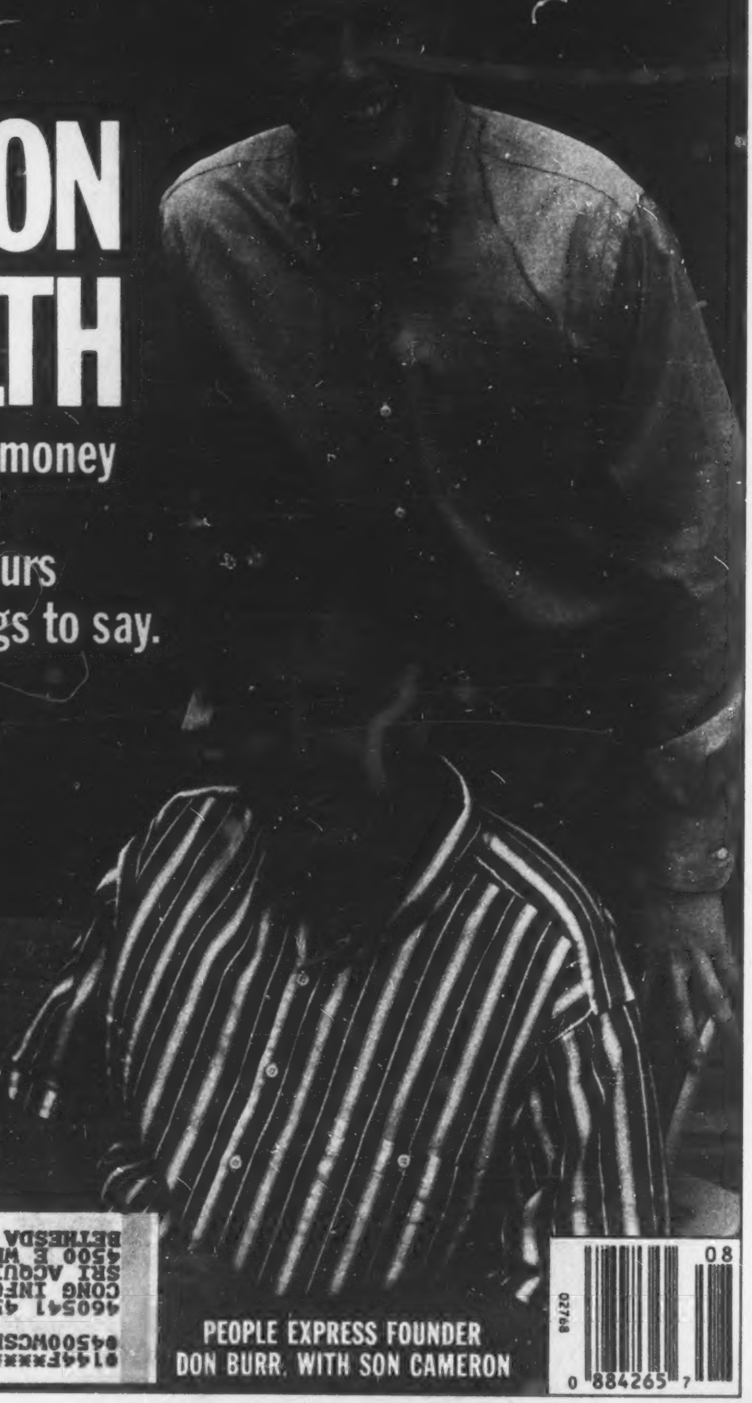

PASSING ON THE WEALTH

Should parents pass their money on to the next generation? The children of entrepreneurs have some surprising things to say.

Capital:
The Agony and Ecstasy of Limited Partnerships
SEE PAGE 117

Management:
Locating the 'Vital Signs' of Your Business
SEE PAGE 131

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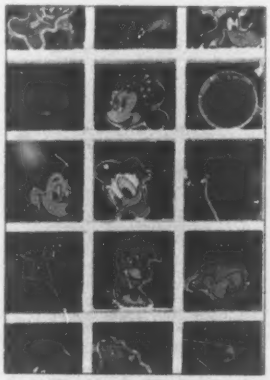

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by
Eric Poggenpohl

WHERE THE GROWTH IS

You can find out about some hot businesses from government reports, but beware of statistical snares

BY JOHN CASE

I'm perusing the 1989 edition of the Commerce Department's mammoth *U.S. Industrial Outlook* when an unlikely growth industry catches my eye.

House slippers. SIC code 3142, a category that includes ordinary slippers plus "slipper socks, made from purchased socks." Shipments are projected to rise nearly 7% this year, placing the industry 14th on the list of the 15 highest-growth manufacturing businesses for 1989.

This, I decide, is news. I read on. Alas, I learn in the next paragraph that house slippers were among the big losers of the past five years. At best they're now only making a comeback. Oh, well. I check out some of 1989's other projected fast growers, such as "fertilizers, mixing only" (#5 on the list). No dice. Here's an industry that hit its peak in 1977, declined, then grew a percent or so a year for the past half decade. It's probably not a great place to look for fast-growing companies either.

My purpose here is simple enough: to see what the U.S. government's vast output of economic data can tell me about where to find growing markets. Today's business landscape is changing rapidly, after all, and I'm curious to know exactly which industries are expanding and which are declining.

Growth-minded company owners, marketers, and prospective entrepreneurs will be interested too, I figure, particularly if we can learn something we don't already know. (We don't need the Commerce Department to tell us the software business is bigger than it used to be.) As it happens, I discover several surprises in my quest—industries that won't make the headlines anytime soon but that are nonetheless growing rapidly and consistently. Let me caution you, however: like any raw data source, government figures can snare the unwary.

Snare #1 is what tricked me into thinking that house slippers might be an up-and-coming business, namely, the tendency to confuse cyclical recovery with long-term expansion. The fastest-growing manufacturing business for 1989, according to the Commerce Department, is—are you ready?—metal-cutting machine tools. Since this industry shows a five-year compound annual growth rate of –2.9%, 1989's projected expansion is most likely just a rebound. Still, don't be too quick to write off all such industries. Metal-*forming* machine tools (such as presses) show an estimated 1989 growth rate of 10% and a five-year annual rate of 8.6%. Why the difference? In recent years, explains Commerce's Patrick W. McGibbon, Detroit has retooled for a bevy of new models, buying a lot of new presses. In 1988 alone metal-forming tool shipments jumped more than 20%.

Snare #2 is assuming the government counts what should be counted rather than what's easiest to count. On page 17, the *Outlook* informs us that service-producing industries "dominate the U.S. economy in terms of both employment and output." But service growth is hard to gauge accurately, particularly because the relevant unit of measurement can vary from one industry to another. So Commerce devotes fully four-fifths of the book's detailed analyses to good ol' resource-extraction and manufacturing businesses, all of which crank out easily countable products. We learn plenty about cleaning preparations and cosmetics and virtually nothing about advertising and accounting.

As a result, you have to look hard for unsung service-industry growth. If you do,

HOT MARKETS

The Commerce Department's pick of the fastest-growing businesses in America

In keeping with its emphasis on goods production, the Commerce Department's *1989 U.S. Industrial Outlook* lists five-year growth leaders and this year's projected leaders for manufacturing businesses (tables A and B). Where services are concerned, all we get is 1989 projected growth rates, and then only for "selected" service industries (table C).

TABLE A

Fastest-growing manufacturing industries, 1984–1989

Industry	**Compound annual growth rate** (sales)
Semiconductor devices	**22.6%**
Missiles/space vehicles	**14.1**
Particleboard	**11.0**
Paper industries machinery	**10.7**
Miscellaneous publishing	**9.6**
Wines & brandy	**9.2**
Surgical & medical instruments	**9.1**
Aircraft engines & engine parts	**8.9**
Engineering & scientific instruments	**8.9**
Metal-forming machine tools	**8.6**
Radio & television receiving sets	**8.3**
Optical instruments & lenses	**7.8**
Measuring & controlling devices, n.e.c.*	**7.7**

*not elsewhere classified

TABLE B

Fastest-growing manufacturing industries (projected), 1989

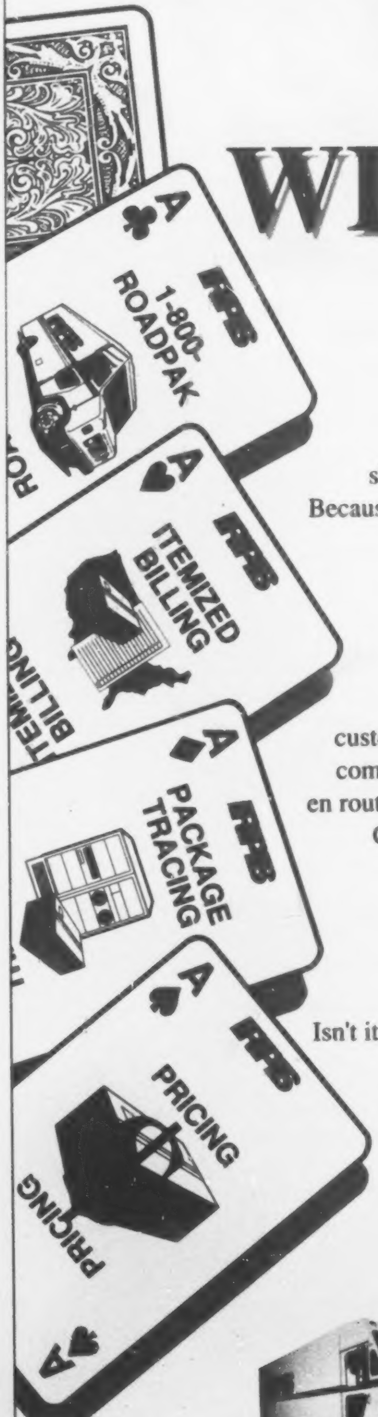
Industry	**Projected growth rate** (sales)
Metal-cutting machine tools	**13.9%**
Semiconductor devices	**13.4**
Paper industries machinery	**13.0**
Wines & brandy	**10.5**
Fertilizers, mixing only	**10.0**
Metal-forming machine tools	**10.0**
Surgical & medical instruments	**9.0**
Surgical appliances	**9.0**
Surface active agents (surfactants)	**8.1**
Optical devices & lenses	**8.0**
Instruments, n.e.c.*	**7.0**
Men's footwear	**7.0**
Polishes & sanitation goods	

TABLE C

1989 forecast growth rates, selected service industries

Industry (Unit of measure)	**Growth rate**
Space commercialization (revenues)	**50.0%**
Computer software (receipts)	**24.0**
Electronic databases (revenues)	**20.0**
Computer professional svcs. (revenues)	**15.5**
Prerecorded music (mfrs. value)	**15.0**
Operations/maint.: security (expend.)	**15.0**
Airlines (revenues)	**14.5**
Data processing (revenues)	**13.0**
Equipment leasing (equip. cost added)	**12.0**
Operations/maint.: airlines (expend.)	**11.5**
Health services (expend.)	**10.7**
Telephone & telegraph (oper. revenues)	**8.0**
Hotels & motels (receipts)	**8.0**

Source: *1989 U.S. Industrial Outlook*



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however, you'll discover a few nuggets—such as a short chapter right at the end on operations-and-maintenance services in fields as diverse as waste treatment, highways, and buildings. All these businesses have shown steady growth in the past several years, with airline O&M expenditures rising by more than 10% a year.

Snare #3 is a time-honored statistical illusion: comparing percentage growth from different starting points. The third fastest-growing manufacturing business over the past five years, says the *Outlook*, is the particleboard industry. But before you run out to join up, notice that the whole shebang amounted to only $1.4 billion last year. If it were a company, it wouldn't make even the top half of the *Fortune* 500. The surprising 9% yearly growth in engineering and scientific instruments, by contrast, came off an initial base nearly four times as large.

Of course, government research volumes like the *Outlook* are most helpful if you know what you're looking for. Not long ago, for example, I read an informative study of Milwaukee's economy assembled by Sammis B. White and his colleagues at the University of Wisconsin (Milwaukee), and I noticed that "miscellaneous plastics products" was one of the fastest-growing manufacturing industries in the region. Later I happened to see that the Small Business Administration listed the industry among the top-10 small-company job generators for 1988.

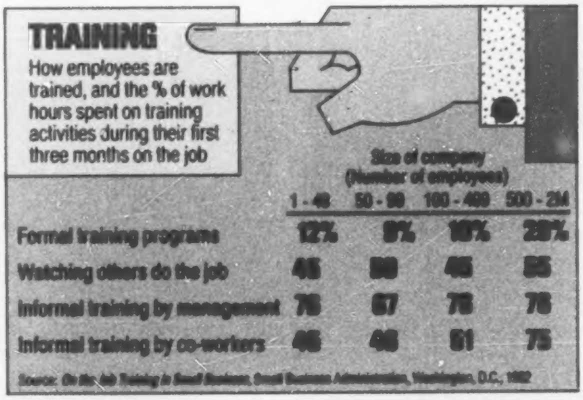
Consulting the *Outlook*, I learned a good deal more. Miscellaneous plastics products (including everything from photographic film to trash cans) is a huge industry, accounting for more than $60 billion in revenues in 1988 and—with 600,000 workers—ranking as one of the biggest employers in the United States. It has been growing steadily at roughly 5% a year after inflation. And it's a quintessential small-company business, with 10,000 companies operating some 12,000 establishments. The prospects for this year are pretty good—5.3% growth—and over the long haul may be even better, as new plastic composites create new product possibilities. Imports are growing but they're still a small fraction of the total market.

Right there, of course, is exactly what a marketer or company owner might want to know about an interesting and largely unheralded industry—one, moreover, that's more important to the nation's economic health than house slippers. But because it doesn't make any top-10 or top-15 listings I wouldn't have found it if I hadn't been looking.

I can't help wondering what else is buried, undiscovered, in the government's statistics about our changing economy. ☐

HANDS ON

A Manager's Notebook



TRAINING

How employees are trained, and the % of work hours spent on training activities during their first three months on the job

	Size of company (Number of employees)			
	1-49	50-99	100-499	500-2M
Formal training programs	12%	9%	10%	28%
Watching others do the job	45	58	45	55
Informal training by management	76	67	76	78
Informal training by co-workers	46	48	61	75

Source: On-the-Job Training in Small Business, Small Business Administration, Washington, D.C., 1982

MARKETING

TAKING ORDERS

You labor long and hard to find customers, and what happens when they call up to give you an order? All the salespeople are at lunch or handling other calls or otherwise occupied. What do you do?

Gus Blythe, president of SecondWind Co., which sells athletic-shoe-care products, has the answer: turn every employee into a potential order taker.

Blythe has order forms hanging from each desk in his Paso Robles, Calif., company. "That way, when the phone rings, we have no excuse not to take an order," he explains. "The forms are self-explanatory, and every employee, including me, is capable of filling them out. There's nothing worse than making a customer wait to give you money." ☐

RESOURCES

COMPUTER SMARTS

To get the most out of your computer without making it your life's work, consider joining a computer users group. Generally, the larger the group, the more services it offers. These may include:

☐ Meetings with prominent software designers to answer questions

☐ A hot line for troubleshooting software programs

☐ Discounts on hardware and software purchases

☐ Classes for both the novice and power user

☐ A library of software, hardware, and books

☐ A newsletter giving the lowdown on the newest programs.

Computer-store employees usually know how to get in touch with local groups, and newspapers often list users group meetings in their calendar sections. Membership rates in these nonprofit organizations vary, but $35 is typical.

Groups with a national following include The Boston Computer Society, (617) 367-8080; the Capital PC User Group, in Rockville, Md., (301) 762-6775; and BMUG Inc. (Berkeley Macintosh Users' Group), (415) 549-2684. ☐

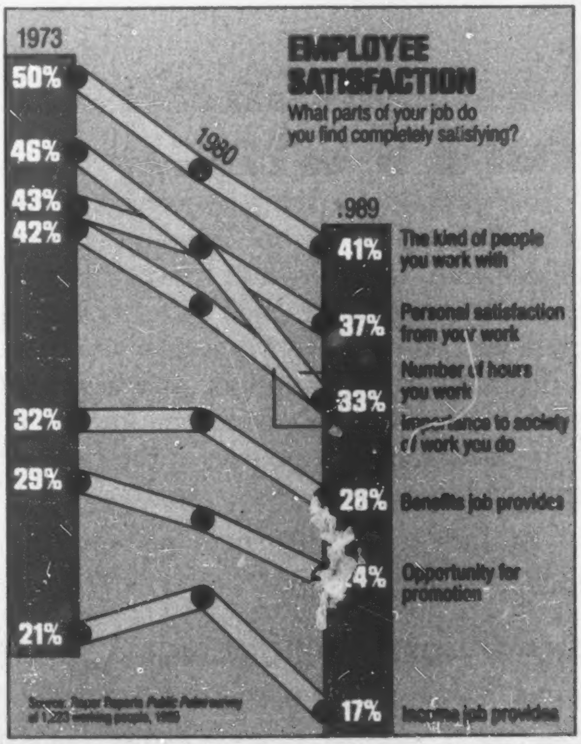
SOCIAL RESPONSIBILITY

MUSIC TO THEIR EARS

Leib Ostrow, CEO of Music for Little People, in Redway, Calif., says he has found a way to increase sales, get favorable publicity, and attract dedicated and like-minded employees. Ostrow promotes nonprofit organizations "that provide help to the planet" in his mail-order catalog of cassettes, videotapes, and musical instruments for children.

Customer feedback has been "100-to-1 in favor," Ostrow says. And for at least 3 of the 12 nonprofit groups spotlighted over the past three years, the catalog has been the single most important source of new members.

"These causes are struggling to get started, just like growing businesses. They've had funding cut, and it's up to entrepreneurs to support them," says Ostrow, whose revenues topped $2 million in 1988. ☐



Source: Roper Reports Public Pulse survey of 1,223 working people, 1989

MANAGING PEOPLE

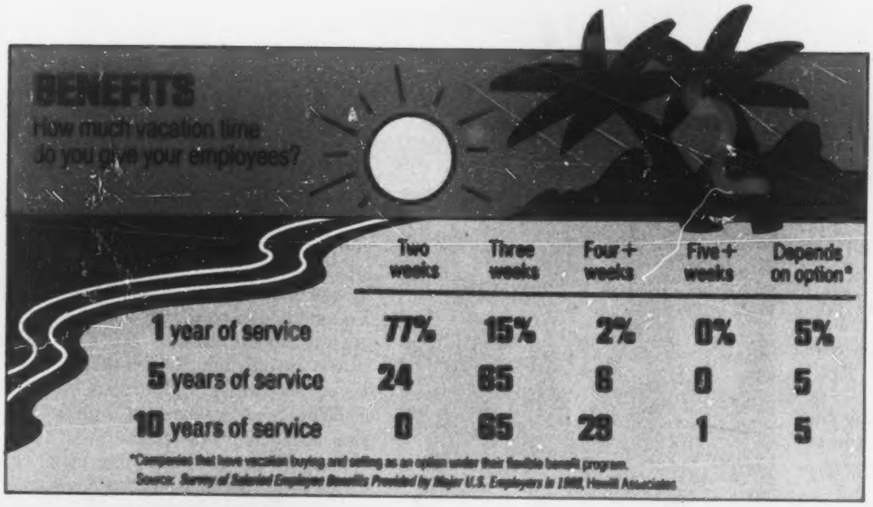
FAMILY TIES

In busy times, it's standard practice to ask employees to work overtime and pay them for it. But Rick Johnson, founder and CEO of BurJon Steel Service Center Inc., in Springboro, Ohio, feels that when the company requires a great deal of overtime for long stretches, money alone isn't enough. On the theory that families and friends suffer when people spend that much time at work, he augments overtime pay with flowers and coupons for dinner at a local restaurant.

Usually Johnson sends the flowers and dinner coupons directly to the employee's spouse or to a friend, along with a personal note. "When somebody works hard, it's hard on everyone," he says. "We think it's important to say thanks." And it doesn't hurt morale either. ☐

CHARTS: CYNTHIA DAVIS

HANDS ON



BENEFITS

How much vacation time do you give your employees?

	Two weeks	Three weeks	Four+ weeks	Five+ weeks	Depends on option*
1 year of service	77%	15%	2%	0%	5%
5 years of service	24	65	6	0	5
10 years of service	0	65	28	1	5

*Companies that have vacation buying and selling as an option under their flexible benefit program.

Source: *Survey of Selected Employee Benefits Provided by Major U.S. Employers in 1988,* Hewitt Associates

ENVIRONMENT

SEND THEM PACKING

When environmentally concerned customers object to your company's practices, change your ways, says Daniel Smith, owner of Daniel Smith Inc., a mail-order art-supply business in Seattle. Smith had been using high-quality Styrofoam peanuts to pack his wares because the damage rate was so low. When customers began to complain about the effect the material would have on the environment, however, he looked around for alternatives. "Finally," he says, "in January I risked it and changed over to recycled paper. And it's worked out fine."

Damage rates have remained negligible, and the net costs are about the same. Smith even garnered some goodwill by notifying his complaining customers of the switch. ☐

EXECUTIVE EDUCATION

FINDING THE RIGHT SEMINAR

Forget business seminars. For better information in your area of interest, go to the sessions where experts inform the professionals in the field. They aren't trying to sell anything, the presentation is more sophisticated, and you make great contacts in the bargain.

Cecil Ursprung, president and CEO of Reflexite Corp., in New Britain, Conn., wanted information on employee stock-ownership plans. So he attended a seminar designed for accountants and lawyers who administer ESOPs. "We went to hear the experts whom professionals rely upon," he says. "The information was presented in an unbiased manner, and they discussed the positives and negatives. We were much better prepared to evaluate our own lawyer's and accountant's advice." And when Reflexite's board voted to set up an ESOP, Ursprung had in hand a list of the best lawyers and accountants to hire for the transition. ☐

CAPITAL

CHARACTER LOANS

For start-ups, it's a classic catch-22 situation. You can't get a loan without a track record, and you can't get a track record without a loan. Richard Aman, CEO of ProKnit Corp., in Scottsdale, Ariz., found a way out. He built his credit record before building his business.

Although ProKnit wasn't incorporated until 1984, Aman began filling out personal-loan applications in 1980. His first loan was for $4,000 or $5,000, unsecured and payable in 90 days. "I said to my banker, 'When I come back and ask for a big loan to start my business, I expect you to be there for me,' and he was," Aman says. Over the next five years Aman paid off more than 10 loans, escalating the stakes to a $100,000 one-year unsecured note, needed to fill his first big order when he started ProKnit. The apparel-manufacturing business has grown from $331,000 in sales in 1985 to more than $14 million in 1988. ☐

CUSTOMER SERVICE

ALUMNI NETWORK

A customer wants something you don't offer. What do you do? Thomas Moser, owner of Thos. Moser Cabinetmakers Inc., a $5.5-million furniture manufacturer in Portland, Maine, hates sending people away empty-handed. So he refers them to someone he thinks can handle the job—often a former employee.

Over the years Moser has seen a number of his woodworkers go into business for themselves, producing specialized items that his shop doesn't make. Helping them out helps his business as well. "Our feeling," Moser says, "is that it makes us more valuable. When customers feel cared for, they come back." ☐

SELLING

BUSINESS-TO-BUSINESS CALLS

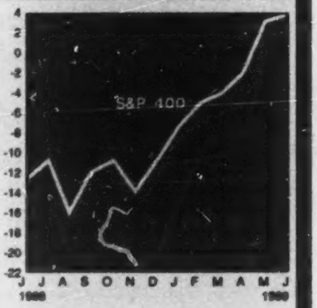
If you sell business to business, an 800 number for customers may be a waste of money, says Stephen J. Carline, customer-service manager for CareerTrack Inc., a $55-million training seminar and workshop company based in Boulder, Colo.

"We've tested the 800 number nine ways to Sunday, and it doesn't seem to add any business, or if it does, it doesn't justify the cost," Carline says. Why? People phoning in orders—like most business-to-business customers—just don't consider the price of the call. "Their company is paying, they're not," says Carline, who estimates that CareerTrack saves $150,000 a year by not having a toll-free number. ☐

Reported by Paul B. Brown, Bruce G. Posner, and Teri Lammers

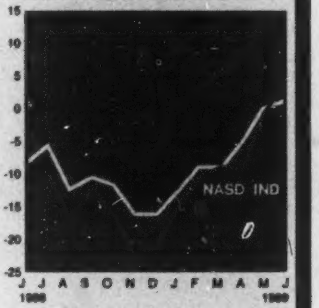
INVESTING IN GROWTH COMPANIES

INC. vs. CONSERVATIVE AVERAGES



All averages start at 0 in October 1987.

INC. vs. SPECULATIVE AVERAGES



All averages start at 0 in Octob 1987.

IPOs IN THE AFTERMARKET

To June 15, 1989

INITIAL PUBLIC OFFERINGS: MAY 1989

O-T-C sym.	Company	Business/product	Offering Size ($mil.)	Offering Price	First aftermarket bid	Underwriter
AFAXU	Amerifax	Provides facsimile-transmission svcs.	3.60	5.00^c	5	D. H. Blair
BLAI	Bernstein/Leibstone Associates	Mkts. & distr. packaging & textiles	3.34	2.75	3⅛	Werthei-Roth
BPT^a	BP Prudhoe Bay Royalty Trust	Oil holding co. for BP Prudhoe Bay	182.00	26.00	26¼	Goldman Sachs
CS^a	Cabletron Systems	Sets up local area network svcs.	68.20	15.50	16⅛	Goldman Sachs
CHEM	Chempower	Provides asbestos-abatement & insulation svcs.	27.30	13.00	13½	Alex. Brown
CXH^a	Colonial Investment Grade Municipal Trust	Municipal trust	120.00	12.00	12	Paine Webber
CMPX	Comptronix	Provides contract mfr. svcs.	10.00	5.00	5½	Robinson-Humphrey
CSIM	Consilium	Supplies management software	13.95	9.00	10¼	Hambrecht Quist
CSLR	Consulier Industries	Provides automobile R&D	1.00	10.00^d	11½	G. K. Scott
DOCUU	DocuCon	Processes documents	3.20	4.00^e	4	D. H. Blair
DFII	Duty Free International	Operates duty-free shops	25.60	20.50	24½	Robertson Coleman
GOAL	Goal Systems International	Dvlps. & mkts. software	23.40	9.75	9⅛	Morgan Stanley
MCX^b	MC Shipping	Owns & operates cargo ships	33.75	15.00	14⅞	Salomon Bros.
VLC^b	Nortankers	Oil transport & tanker acquisition co.	79.20	15.00	14⅜	Smith Barney
PYM^a	Putnam High Yield Municipal Trust	Closed-end fund	185.00	10.00	10	Prudential Bache
RBNKU	Regent Bancshares	Bank holding co.	4.80	10.00	9⅝	Hopper Soliday
REP^a	Repsol, S.A.	Integrated petroleum co.	157.85	14.35	17⅛	Goldman Sachs
ROC^a	(R.O.C.) Taiwan Fund	Fund for Taiwan investments	59.84	14.55	14½	First Boston
SNRSU	Sunrise Technologies	Provides laser-technology research	2.50	5.00^f	5⅝	Thomas James
TGSNU	Transgenic Sciences	Dvlps. pharmaceuticals	3.20	4.00^g	4	D. H. Blair
UTOG	Unitog	Provides uniform-rental svcs.	19.60	12.25	14⅝	G. K. Baum
UNTY	Unity Healthcare Holding Co.	Provides health-care personnel	4.05	3.00	4⅛	Paragon Capital
VISXU	VISX	Provides laser-surgery research	4.00	5.00	5⅛	Jonathan Alan
WILD	Wildey	Mfrs. firearms	3.50	5.00	5¼	Rosenkrantz
XSCIU	Xsirius Superconductivity	Dvlps. applications for superconductivity	6.00	6.00^h	10	D. H. Blair

Initial public offerings sold at $1 or less not included. First aftermarket bid is approximate. [a] trading on the NYSE; [b] trading on the AMEX; [c] units of 5 common + 5 warrants; [d] units of 40 common + 10 warrants; [e] units of 4 common + 4 warrants; [f] units of 5 common + 1 warrant; [g] units of 3 common + 2 warrants; [h] units of 3 common + 3 warrants. Offering data source: *GOING PUBLIC: THE IPO REPORTER*, a publication of The Dealer's Digest Inc., 150 Broadway, New York NY 10038

CHARTS: IMAGEBUILDER DESIGN

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EXECUTIVE COMPENSATION '89:
How CEOs evaluate, review, and reward their key people
see page 74

SEPTEMBER 1989
$3.00

Inc.®

WHO'S *REALLY* FINANCING AMERICA'S START-UPS?

Meet the People Who Are Putting the 'Venture' Back in Venture Capital

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advanced technology, alternative energy
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$1 million to $20 million

SOPHIA COLLIER, 33
FOUNDER:
Soho Natural Soda
DEALS:
printer, film distributor, real estate
TYPICAL INVESTMENT:
$100,000 to $250,000

PHILIP ROMANO, 49
FOUNDER:
Fuddruckers restaurant chain
DEALS:
medical technology, men's clothing
TYPICAL INVESTMENT:
$100,000 to $200,000

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INC.'s ANNUAL SURVEY

EXECUTIVE COMPENSATION 1989

How CEOs evaluate, review, and reward their key managers and employees

BY BRUCE G. POSNER

It isn't difficult to explain the widespread interest in questions of compensation. Founders of growing companies often lack a context in which to measure their own company's compensation practices and policies. And, more personally, who doesn't like to know how their own paycheck ranks in the larger scheme of things?

With our annual survey on executive compensation, INC. has attempted to satisfy this curiosity since 1979, our first year of publication. Throughout this period, we've published hard numbers on what chief executive officers of private companies pay themselves and their top people, along with details on benefits and perks—their bonuses, the cars they drive, and who gets to fly first class.

This year we've added a new dimension to our compensation package. To keep up with the information needs of people who are running businesses, we're furnishing more data than ever on companywide pay practices. We're also providing material on how executives go about making the nitty-gritty decisions that shape their overall pay strategies. How, for example, do they review employees? Are salaries kept secret? Who makes the final decisions about earnings?

You'll find the answers to these and other questions on the pages that follow.

THE TAKE AT THE TOP

A look at how CEOs fare in salary, bonuses, benefits, and perks. And what their top executives make based on industry and size of company.

CEO BENEFITS AND PERKS

Company car & expenses	80%
Supplemental life insurance†	57
Tax-return preparation	48
Club dues & expenses	39
Supplemental medical insurance†	36
Personal tax & financial planning	28
Low- or no-interest loans	24
Supplemental retirement benefits†	17
Deferred compensation	13
First-class air travel	10
Moving allowance	9
Housing allowance	5

†Beyond customary companywide benefits

THE CEO: A profile of the typical chief executive officer

Total compensation	$104,802
Base salary	$78,161
Percent receiving bonus	49%
Bonus	$49,028
Bonus as a percent of total compensation	29%
Age	46
Equity held	67%
Percent with no equity	5%
Percent who are founders	74%

THE COMPANY: A profile of the typical company

Total revenues (FY 1988)	$6,774,008
Number of employees (FY 1988)	104
1988 payroll	$1,452,636
Payroll as a percent of revenues	29%
Percent that are privately owned	94%

All figures are averages.

How can you tell if the size of your payroll is right for the type of business you're in?

Patterns do emerge from our survey. For example, the percentage of sales that the median wholesale and retail companies devote to salaries, wages, and other forms of compensation is only about half that of manufacturing and service businesses. Wholesalers, as a group, tend to pay out the least (13.2%), while service businesses pay the most (35.6%).

Since small, growing companies are often in specialized niches, however, the relationship between payroll and revenues depends on a number of factors—everything from the nature of the market to plans for expansion.

If industry comparisons aren't relevant, is there anything else you can look at?

Company size. But it, too, is a weak indicator. Bigger companies—more than $10 million in revenues—often spend a much smaller percentage of their resources on payroll than smaller ones, but beyond that, there's little the survey points up. There are huge variations among similar-size companies. Many $2-million businesses, for instance, have payrolls of less than 20% of revenues, while others pay out in excess of 50%; the median for all the businesses we surveyed is 27%.

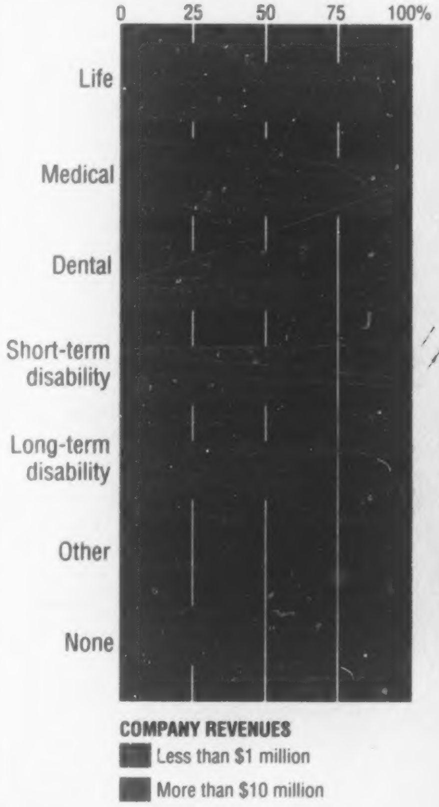
Benefits are an ongoing issue. How can a company tell whether it's in the ballpark?

Interesting clusters show up in the survey within industries and by size. Manufacturers, for example, tend to devote the highest percentage of their payroll to benefits; retailers spend the least. The median manufacturing business spent 10.2% of payroll on assorted benefits in 1988; the median retailer, 5.6%. Service and wholesale companies fell in between.

As for size, the bigger the business, the more benefits it offers. Of surveyed companies wtih revenues of more than $10 million, over 90% offer life and medical insurance, and about 60% offer dental and short- and long-term disability coverage (see figure 1).

(continued)

FIGURE 1
COMPANYWIDE BENEFITS
% offering group insurance



TOTAL COMPENSATION FOR TOP OFFICERS BY COMPANY SIZE

$10 million or more

Sector	CEO	COO	CFO	CMO*
Service	$220,453	$130,014	$91,237	$128,003
Manufacturing	183,975	110,397	87,799	94,867
Distribution	153,489	98,927	79,318	85,765
Retail	141,644	96,120	73,767	73,883
Overall	189,043	112,840	85,928	101,433

$5 million to $9.99 million

Sector	CEO	COO	CFO	CMO*
Service	$198,947	$120,538	$130,043	$150,988
Manufacturing	144,289	81,815	54,448	77,761
Distribution	107,609	77,892	62,767	60,837
Retail	131,015	80,822	53,375	88,750
Overall	153,694	93,782	82,829	91,491

*Chief marketing or sales officer

$1 million to $4.99 million

Sector	CEO	COO	CFO	CMO*
Service	$132,508	$76,517	$54,496	$72,135
Manufacturing	100,085	56,496	48,460	52,346
Distribution	91,737	54,737	43,896	53,840
Retail	72,670	50,817	35,706	53,773
Overall	108,449	65,720	51,880	60,447

Less than $1 million

Sector	CEO	COO	CFO	CMO*
Service	$61,443	$45,554	$39,378	$42,081
Manufacturing	47,723	33,923	27,820	38,279
Distribution	36,589	30,000	24,200	51,025
Retail	34,530	28,964	26,239	33,742
Overall	54,874	41,241	36,655	42,274

All figures are averages.

CHARTS BY ELLEN TIKKANEN

What about companywide retirement benefits?

Companies surveyed offered retirement benefits to a greater extent than we expected. It's no surprise that fewer very small companies—those with revenues under $1 million—offer benefits than bigger ones, but a third of these small companies do have some kind of retirement plan. Younger companies—under five years old—are less inclined to have programs in place than their older counterparts. But we found plenty of exceptions. One was AMS Inc., a year-old multilevel marketing company in Oklahoma City, where several of the 10 full-time employees are being offered stock options. "For us, it's a way of preserving cash," president Dennis Loney says, "and we hope it generates loyalty."

Once businesses pass the $1-million mark, retirement benefits such as profit sharing, 401(k) savings plans, and stock options become more common. About 80% of all companies we surveyed with sales of at least $5 million offer retirement benefits of some kind, and many offer more than one (see figure 2).

How common are employee performance appraisals or reviews?

Performance appraisals are a lot more embedded in the small-business culture than we had imagined. Of course, at companies with few employees, many executives complain that performance reviews are too formal. Typical are the comments of Robert Jordan, cofounder and CEO of International Demographics Inc., a 10-person business in Houston. "At our company," Jordan says, "communication is an ongoing thing." He experimented with employee appraisals several years ago but found them too cumbersome. "We like to confront problems whenever they come up," he says.

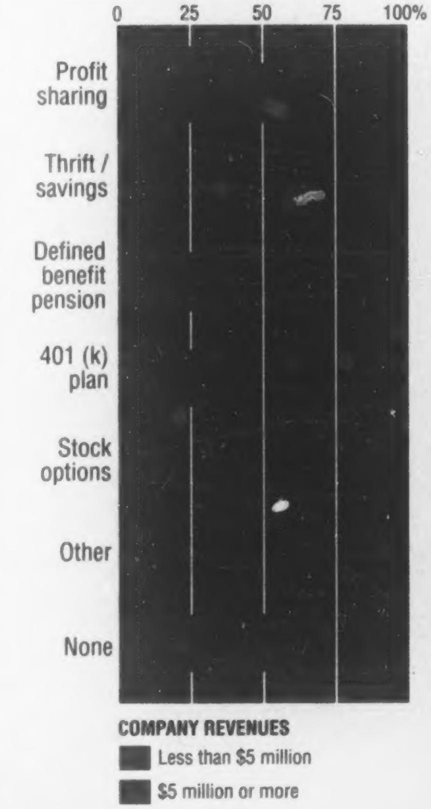
Still, half the executives at companies with sales of less than $1 million say they have companywide reviews. And the proportion grows as companies get larger: 82% of the companies with sales of $5 million and more say they conduct reviews. Nor do performance reviews appear to be one of those management fads that come and go. No matter what business they're in, most managers tell us they've been doing reviews for four years or longer.

(continued)

FIGURE 2

COMPANYWIDE BENEFITS

% offering retirement benefits



THE TAKE AT THE TOP *(continued)*

DETERMINING BONUS AND SALARY FOR TOP OFFICERS

Companies paying bonuses	65%
Basis for allocation of bonuses*	
Discretionary	59%
Achievement of profit goals	32
Achievement of sales goals	27
Percent of profits	26
Percent of sales	10
Return on equity, assets, or sales	9
Companies with a bonus pool	65%

Basis for determining the size of bonus pool**	
Discretionary	62%
Fixed formula	17
Formula set annually	16
Other	6
Basis for increasing executive salaries*	
Company performance	59%
Discretionary	52
Individual performance	38
Cost of living	12

*Total exceeds 100% because of multiple responses. **Total exceeds 100% because of rounding off.

THE FACTS BEHIND THE FIGURES

This is the eleventh consecutive year that INC. has conducted an executive compensation study. In April we mailed a four-page questionnaire covering salaries, benefits, bonuses, practices, and policies to a random sample of 20,000 subscribers. Data Tabulation Services Inc., in Stoneham, Mass., compiled the 1,126 usable returns.

A special report containing the complete results of the survey is available. The report—while preserving the confidentiality of the survey responses—provides detailed information not included in this article. To obtain a copy, please fill out the postpaid card bound in this issue, or send a written request and a check for $98 ($95, plus $3 shipping and handling) to 1989 INC. Executive Compensation Study, P.O. Box 68618, 6360 LaPas Trail, Indianapolis IN 46268, or call (800) 372-0018, extension 3400.

The survey was conducted under the direction of special projects editor Sara Baer-Sinnott. Research assistance was provided by Teri Lammers.

Who generally does the reviews? And are they oral or written?

Among the companies in our survey, reviews are occasionally done by committees or by an employee's peers. But mostly managers and CEOs conduct reviews, and the involvement of CEOs is fairly consistent across industries. There are differences by company size. In those with sales of less than $1 million, for example, 66% of the CEOs are involved in companywide reviews. By the time companies pass the $10-million mark, CEO involvement drops to 27%. By then most of the responsibility for the appraisals shifts to managers; at $10 million, their involvement rises to 90%, up from 49% in companies with revenues of under $1 million (see figure 3).

There's a good deal of consistency, too, in how the reviews are conducted. Companies with sales of under $1 million are less inclined to commit themselves to paper; 34% do nothing in writing, compared with 25% of the companies overall. But a surprising number of executives—61%—said their reviews were both written and oral.

What topics are usually covered in performance reviews?

To some extent, the answer to this question is a function of a company's size and its stage of development (see figure 4). Virtually everybody who does reviews uses them to examine employee strengths and weaknesses. And most companies (around 80%) use them to adjust salaries, award bonuses, and frame goals for the coming year.

Smaller companies, though, tend to deal with broader issues. Instead of just focusing on individual employees, businesses with sales of less than $5 million also like to discuss company goals and problems—far more so than larger companies. One of these is Teletech Resources Corp., a $2.1-million business-communications company in Milwaukee. "We don't want people to see things too narrowly," explains Lucy Kugler, a Teletech vice-president. "Reviews are a great setting for talking about where we're going."

How often do companies hold reviews?

It depends on the industry. Retail businesses as a group tend to review employees more often than others—26% of the retail respondents say they do appraisals quarterly, compared with 12% in other businesses. And smaller companies—those with revenues of less than $1 million—also lean toward more frequent sessions; a quarter say they do them four times a year. The founder of an 11-person video-production business in Honolulu probably echoes the view of many of these companies when he says, "We feel that people can operate better with timely feedback."

Generally, however, an annual review is the norm, particularly as businesses get larger. At companies with sales of $10 million and more, 89% perform reviews annually, compared with 63% of those with revenues of less than $1 million.

Are the reviews just for employees, or do managers get something out of them, too?

An astonishing 98% of those who conduct reviews say they find the process beneficial. The benefits are often hard to quantify, but in addition to providing a forum for communication about performance, they provide opportunities to hear about what's wrong (or right) about a business. "Things come up in these sessions that wouldn't come up in day-to-day discussions," says Bill Bozeman, CEO of Delta Audio-Visual Security Inc., a New Orleans–based electronic-security contractor. "Somebody will say, 'Isn't it time to consider this or that,' and it will set things in motion." In fact, Bozeman notes, comments during a recent review led Delta to restructure its service department.

(continued)

FIGURE 3

COMPANYWIDE PERFORMANCE REVIEWS

% conducted by CEO or manager

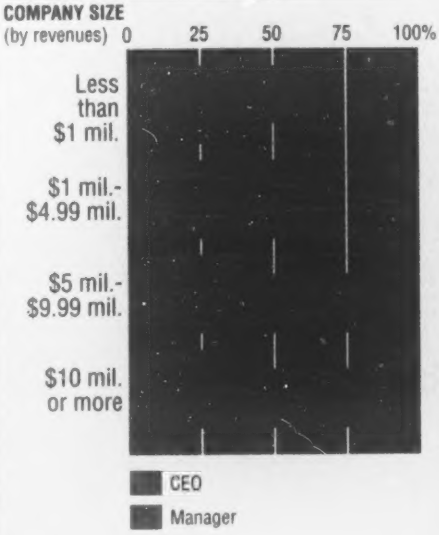
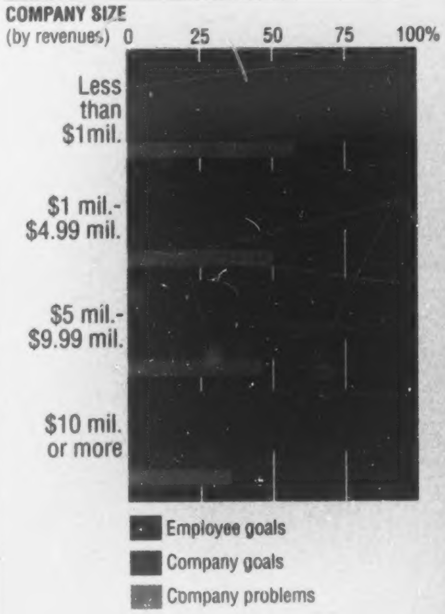


FIGURE 4

COMPANYWIDE PERFORMANCE REVIEWS

Topics covered (by %)



Do managers find doing reviews stressful?

You bet. Half of our respondents do, in fact. The most interesting comparisons are based on size. Although the stress levels are roughly the same for all industries—be they service, manufacturing, distribution, or retail businesses—they seem to become more intense as companies get bigger. So don't expect things to get easier as your company grows (see figure 5).

Are there ways to reduce the stress?

We've talked with managers who have suggestions for their colleagues who are uncomfortable with the idea of a one-sided conversation that puts employees on the spot. Dan Juhl, for instance, president and CEO of Stanhope Products Co., a supplier to the home-appliance and automotive industries based in Brookville, Ohio, overcomes this by inviting people to talk about how the company can do things better. "They know they can bring up anything that concerns them," he says. And before offering his own comments, Juhl asks employees to tell him how they think they've been performing. "Nine times out of 10," Juhl says, "they're harder on themselves than we would be." His role, at that point, is not to be critical, but to communicate standards he wants them to meet for the upcoming period.

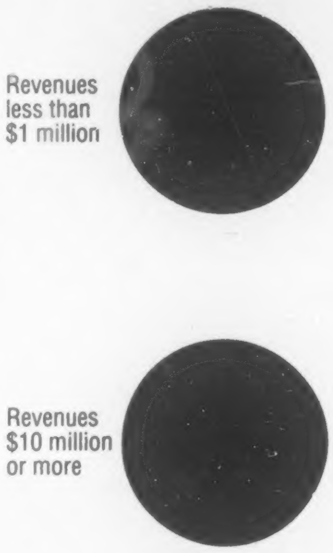
How about confidentiality? Do employees know what others make?

Officially, they don't, and most CEOs would prefer to keep it that way. There's no question that rumor mills churn away at companies, but most of our respondents prefer that to releasing compensation information. Opening the books, says Larry Brown, CEO of Onions Inc., a restaurant operator in Spokane, Wash., would be a violation of people's privacy. "People would

FIGURE 5

COMPANYWIDE PERFORMANCE REVIEWS

Is process stressful for reviewers?



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sit around and wonder why others were making so much," he says.

But not everyone thinks that distributing pay information is bad—or as bad as the rumors. A number of companies (13% of those we surveyed) make salary *ranges* available to anyone who asks, and 19% say they give employees the actual numbers.

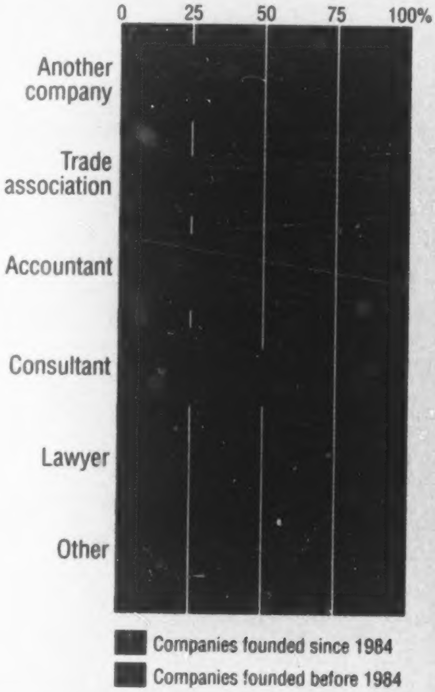
What do executives know about one another's compensation?

They know a lot more about what their colleagues are paid than do employees. Close to half of the executives we surveyed said salaries were known, while another 8% said only the salary ranges were known. In manufacturing businesses, information about executive pay is more restricted. Bigger companies, too, are less inclined to reveal these figures than smaller ones.

Do companies go to outsiders for help in sorting out compensation questions?

The bias entrepreneurs have against using consultants is legendary, so it isn't surprising that most of our survey respondents say they try to work things out for themselves. More than 70% say they've never gotten help from anyone. The executives least likely to look for help are those at retail and wholesale companies. People who have been in business for less than five years, no matter what the industry, are also less inclined to get help. At younger companies, for instance, only 22% had ever gotten assistance, compared with 32% of companies five years old and older. *(continued)*

FIGURE 6
OUTSIDE RESOURSES
Who provides help? (by %)



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Where do companies that want outside advice look for it?

Executives at younger companies are almost as likely to turn to their peers at other businesses as they are to call on consultants or accountants. In addition to being cheaper, it's a less formal way to get detailed information about how other people do things, notes John Thomas, CEO of Dakota Systems Inc., a $2.1-million fabricator of fluid- and gas-handling systems in Andover, Mass. Besides working with his accountant, Thomas has developed relationships with executives at two businesses similar to his own—one in Texas and the other in California. He's talked to them about everything from salary levels to profit-sharing options to the frequency of their performance reviews.

But the picture changes as companies get older and more established. Companies founded before 1984, for example, tend to rely more on traditional sources of advice, such as trade associations or consultants (see figure 6).

What are the main concerns of companies that seek help?

The smaller the company, the more interested it is in benefits. For businesses under $1 million, this ranks far ahead of every other concern. At larger companies, interest shifts to salary ranges—the eternal question of what to offer new hires and how to keep them once they've settled in.

As for different industries, the issues are spread evenly, with one major exception: retail businesses have a particularly keen interest in how to develop effective incentive plans.

How do companies decide how much to increase executive salaries?

The most common factor, logically enough, is how the business is doing. That's cited by 59% of the executives we surveyed, and it cuts across all industry and size categories. A somewhat smaller group of respondents (52%) says salary increases are decided at least partly on a discretionary basis; cost of living is far behind, at 12%.

The most interesting finding, however, has to do with the relative importance of individual performance. Among businesses with sales of less than $1 million, individual performance is cited just 27% of the time. But once sales reach $10 million or more, an executive's performance becomes a factor in nearly 60% of the companies.

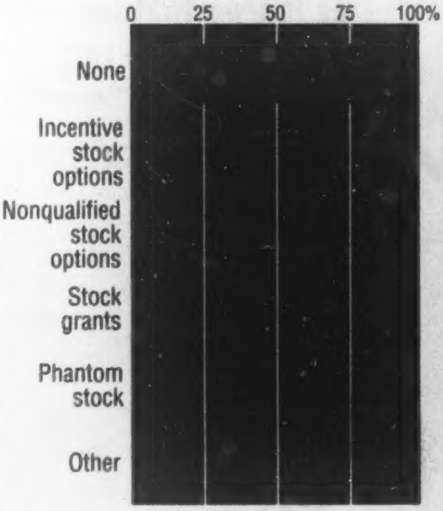
What about executive bonuses? How are they determined?

Sixty-five percent of the companies surveyed pay bonuses to executives, but despite all we hear about the trend toward "paying for performance," most businesses are still pretty informal about how they allocate bonuses. In fact, 59% of our respondents say the decision is at least partly discretionary. The process becomes more numbers-driven as companies get larger, but discretion remains substantial even after companies pass the $5-million mark (see chart, page 76).

Is it usually the CEO who makes the final decision on executive compensation?

In about 80% of the companies surveyed, CEOs have a big say in the decision. Some companies (12% overall), though, turn the decision over to managerial committees. At Macke Business Products Inc., a $22-million company in Rochester, N.Y., for example, the top four executives set their own salaries and those of the top dozen managers. Doing things this way gen-

FIGURE 7
EXECUTIVE COMPENSATION
% offering capital accumulation plans



erates a feeling of trust among managers, CEO Edward H. Fischer says. "If we were more arbitrary, it might undermine the team spirit."

Is it true that the use of executive stock options is on the rise?

Not according to our survey. In the four years we've been tracking stock options for executives, the levels have remained virtually flat. Incentive stock options, which provide opportunities for employee gains with no corresponding tax benefit to the company, are currently used at about 9% of the companies we survey. Nonqualified options, which do have potential tax benefits for employers, are used at around 3% (see figure 7).

What businesses are most apt to have stock options? Manufacturing companies and businesses with sales of more than $10 million; both groups tend to be a little more aggressive with their capital-accumulation programs. But 65% of the $10-million-plus companies we surveyed had nothing by way of a capital-accumulation plan, and the percentage of smaller businesses without plans was closer to 86%.

What guidelines do CEOs use to set their own compensation?

Because of the niches they operate in, many entrepreneurs don't think of themselves as being part of well-defined industries. That makes setting pay levels a little tricky, according to David Charles, president of BenchMark Environmental Services Group, a $10-million heating, ventilation, and air-conditioning service contractor based in Denver. With 97 employees and business in four states, BenchMark, Charles says, is set up quite differently from its competitors, which have fewer employees and operate in a smaller area. So, rather than using them as a comparison, he plays off owner-operators of service firms that are in situations more analogous to his own.

Even when industry comparisons are easy to find, some CEOs seem reluctant to give them too much weight. Louis Williams, president of L. C. Williams & Associates, a Chicago public-relations firm, for instance, says he pays himself less than owners of other firms his size. "Not that I don't like money as much as anyone," he says. "But as the owner, I look at things a little longer term. As the business becomes more valuable, I'll benefit."

Overall, the largest number of CEOs in our survey said they based their compensation on profitability. Salaries and bonuses, on average, totaled $104,802. Executives at companies with sales exceeding $5 million were more likely to cite industry norms as a major factor than smaller businesses. And they were less likely to mention capital needs or taxes (see figure 8).

Are most CEOs satisfied with their compensation? Are there perks or benefits they'd like to have but don't?

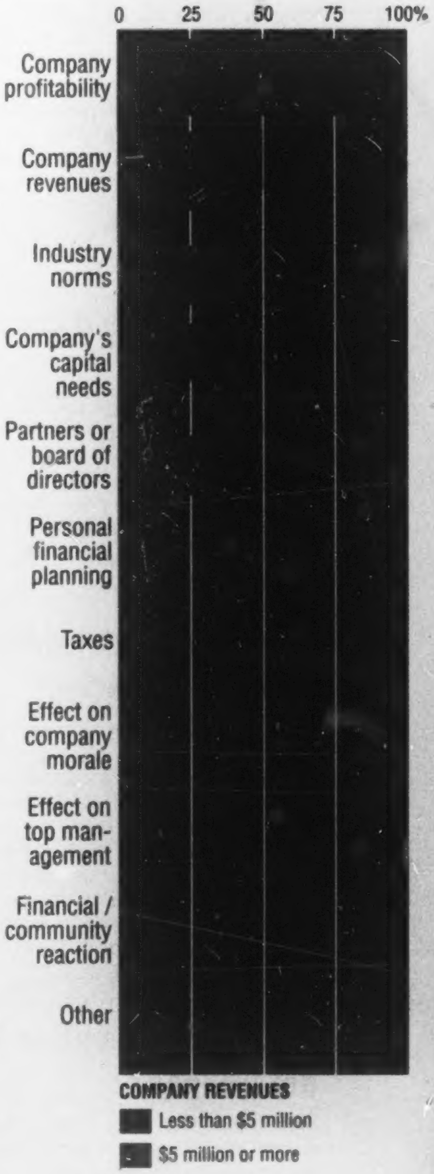
We'll tell you what they told us. Only 3% of the CEOs we surveyed allowed that their 1988 compensation might be "too high" (nobody offered to give any of the money back). The least happy of them seemed to be concentrated in businesses with less than $1 million, where 58% said their pay was "too low," and in retailing (53%). Most CEOs (54%) indicated they were paid "about right." The most content? CEOs of wholesale or distribution businesses (61%) and companies with revenues of $10 million or more (68%).

As for the extras, most CEOs are apparently well set. When asked what perks or benefits they'd like to receive and currently don't, 69% of the respondents left the question blank. And what about those who did answer? Fifteen percent said "none." For the others, it depends on what stage they're at. CEOs at companies under $1 million wanted the basics: cars (19%), health insurance (23%), or pensions (20%). But once sales exceed $5 million, the focus shifts; 12% wanted supplemental retirement benefits, and 12% mentioned country-club memberships. ☐

FIGURE 8

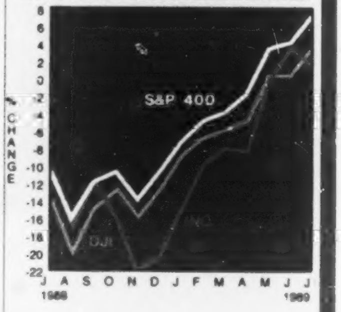
EXECUTIVE COMPENSATION

What CEOs consider
when setting own compensation (by %)



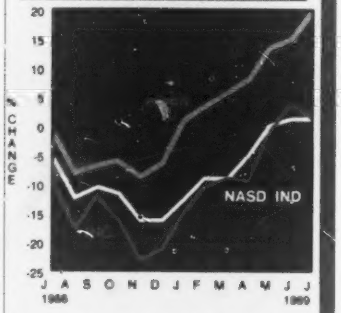
INVESTING IN GROWTH COMPANIES

INC. vs. CONSERVATIVE AVERAGES



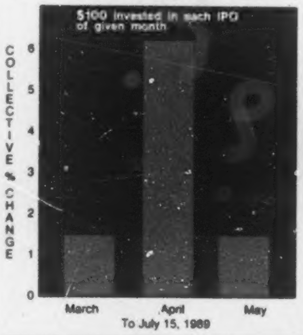
All averages start at 0 in October 1987.

INC. vs. SPECULATIVE AVERAGES



All averages start at 0 in October 1987.

IPOs IN THE AFTERMARKET



INITIAL PUBLIC OFFERINGS: JUNE 1989

O-T-C sym.	Company	Business/product	Offering Size ($mil.)	Offering Price	First aftermarket bid	Underwriter
AOT[a]	**Allstate Municipal Income Opportunities Trust II**	Closed-end fund	185.00	10.00	10	Dean Witter
BALIU	**Ball Jewelry Ltd.**	Mfrs. gold jewelry	5.00	2.50[c]	2⅞	J. W. Gant
BNSUF	**Bonso Electronics International**	Mfrs. electronics products	10.00	5.00[d]	5	Blinder Robinson
CRUS	**Cirrus Logic**	Mfrs. semiconductors	33.40	10.00	12⅜	Goldman Sachs
COKR	**Cooker Restaurants**	Restaurant chain	18.00	4.50	4⅝	Morgan Keegan
FISB	**First Indiana**	Savings & loan	5.45	12.25	12⅛	Merrill Lynch
FRCH	**Frenchtex**	Distr. European textiles	3.41	5.25	5½	Keane
HAND	**Handex Environmental Recovery**	Provides groundwater-testing svcs.	16.80	14.00	14¾	Alex. Brown
IEX[a]	**IDEX**	Mfrs. industrial pumps	47.85	14.50	14½	Bear Stearns
ICTIU	**International CMOS Technology**	Dvlps. semiconductors	3.60	5.00[e]	5 1/16	Paulson Investments
MAG[a]	**MagneTek**	Mfrs. electrical equip.	63.00	12.00	11¾	Merrill Lynch
NPP[a]	**Nuveen Performance Plus Municipal Fund**	Closed-end fund	750.00	15.00	15	Alex. Brown
PCL[a]	**Plum Creek Timber**	Mfrs. timber & wood products	247.00	20.00	20¼	Shearson Lehman
REXL	**Rexhall Industries**	Mfrs. motor homes	6.00	6.00	6⅜	H. J. Meyers
SFD[a]	**Smith's Food & Drug Centers**	Regional supermarket chain	98.80	19.00	20½	Goldman Sachs
STXL	**Sports-Tech International**	Dvlps. computer products & systs.	2.50	5.00	5⅜	Gulfstream
SYMC	**Symantec**	Dvlps. microcomputer software	16.48	10.50	11½	Robertson Colman
SNTC	**Synetic**	Mfrs. plastics	18.90	10.50	10⅞	Drexel
TCM[b]	**T/SF**	Publishing & communications	25.20	12.00	12	Oppenheimer
WS[a]	**Weirton Steel**	Mfrs. steel	58.00	14.50	14⅞	Lazard Freres

Initial public offerings sold at $1 or less not included. First aftermarket bid is approximate. [a] trading on NYSE; [b] trading on AMEX; [c] units of 1 common + 1 warrant; [d] units of 5 common + 5 warrants; [e] units of 2 common + 2 warrants. Offering data source: *Going Public: The IPO Reporter*, a publication of The Dealer's Digest Inc., 150 Broadway, New York NY 10038

STREET TALK Investors in small-cap stocks no doubt were unpleasantly surprised by the two-percentage-point decline in the INC. index in the 30 days reported on this page, especially inasmuch as the DJI and S&P sprang ahead three percentage points to new post-Crash highs. In large part, INC.'s malaise can be attributed to a poorly performing technology sector, in which many small computer companies (not to mention such big ones as Cray Research and DEC) dropped out of the overall bullish trend. Reading this sorry performance as a leading indicator of sorts, perhaps it means that capital spending is about to contract, and those predicting a recession next year have grounds for concern. —*Robert A. Mamis*

CHARTS: IMAGEBUILDER DESIGN

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SEPTEMBER 1989 VOL. 11 NO. 9

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OCTOBER 1989
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'WHY I HATE BEING THE BOSS'

How Jack Stack's approach to business lets him avoid the problems of the traditional manager

JACK STACK,
PRESIDENT OF
SPRINGFIELD
REMANUFACTURING

Avoiding Costly Legal Battles

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Managing People: Staging Effective Meetings

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COVER PHOTOGRAPH
by Jean Moss

REPORT 1989 ON THE STATES

Winners and losers in this year's ranking of state economic climates

The number is (617) 227-4700. We know from experience that as soon as this issue hits newsstands, that number—ours—will get a lot of use.

Folks from Arizona, which had ranked #1 since 1986, will call to find out why their state fell to #11 this year. And then some wise guy will wonder if North Carolina's decision to host this year's INC. 500 conference is the reason it moved up three positions to #8. (It's not. In fact, this is the first time ever that a host state has gained in the subsequent rankings.)

In case your call doesn't get through, let us answer as best we can what we expect will be the most popular questions. They range, as you'll see, from the easy to the unanswerable:

Q: Why did Texas (whose residents are always quick to question bad news) fall from #20 to #31, the biggest decline on the list?

A: The oil economy hasn't come back yet.

Q: What caused New Mexico—which fell another three places this year to #39—to lose ground four years in a row?

A: A semi-educated guess here, but the state is losing defense contracts as part of the federal belt-tightening.

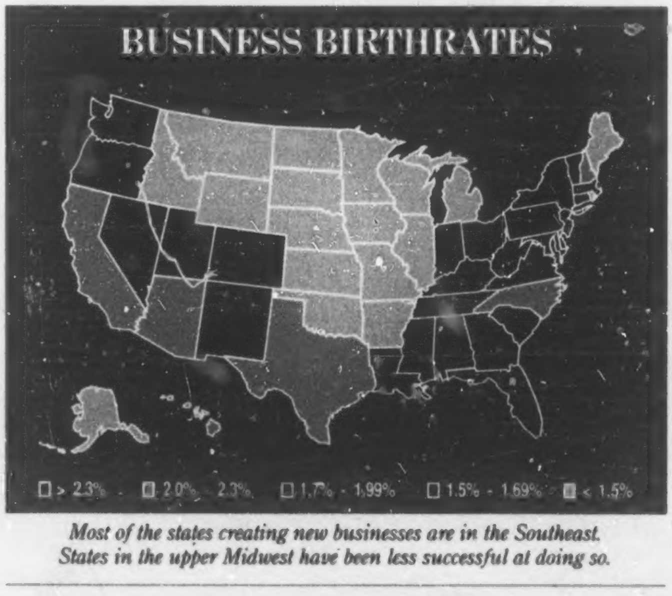
Q: Massachusetts dropped from #12 to #17, yet New Hampshire, its neighbor, remained at #2. What gives?

A: We don't know.

We do know a couple of things, though. First, never underestimate quality-of-life issues in trying to predict new-job generation. Hawaii, which ranked 40th in 1986, has been steadily climbing; it reached #12 this year. Similarly, California and Florida—two other lifestyle favorites—remain comfortably in the top 10 for the fourth consecutive year.

Also, it is interesting to spend some time with the table labeled "Business Birthrates." In the 1988 report, every state reported a smaller number of start-ups than the year before. That's true this year, too, with four exceptions: Hawaii, Nevada, Oregon, and South Carolina reported increases. Not surprisingly, since business birthrates are a significant component in determining a state's ranking (see box on the following page, "What the Rankings Mean"), all four states showed significant gains. In fact, Oregon and Nevada jumped the most, moving up nine positions and seven positions, respectively.

Finally, in looking over the past four years' worth of data, we noticed that states consistently gaining in the rankings outnumbered consistent losers two to one. Only five states—Alaska, Arkansas, Colorado, New Mexico, and Texas—have steadily fallen in the rankings every year since 1986. Eleven states—Hawaii, Illinois, Iowa, Mississippi, Nevada, North Carolina, Oregon, Tennessee, Washington, West Virginia, and Wisconsin—have steadily moved up. We didn't include your state in the list of gainers if it was stuck in the same spot two years in a row. So if you're from the economic-development offices in Delaware, Kentucky, North Dakota, Pennsylvania, or Virginia, please don't call us.



Most of the states creating new businesses are in the Southeast. States in the upper Midwest have been less successful at doing so.

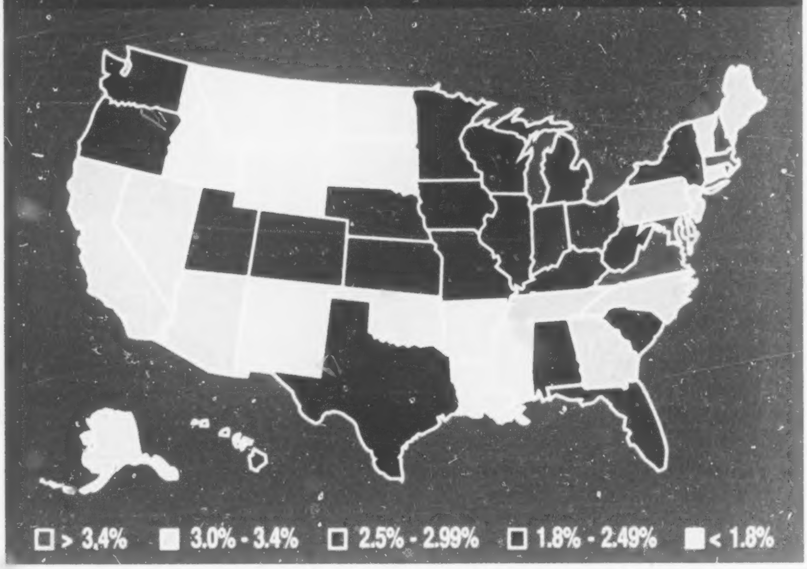
MAPS: DEBORAH HERZOG

Besides, you'd be likely to get a busy signal anyway.

The rankings start on page 87. *—Paul B. Brown*

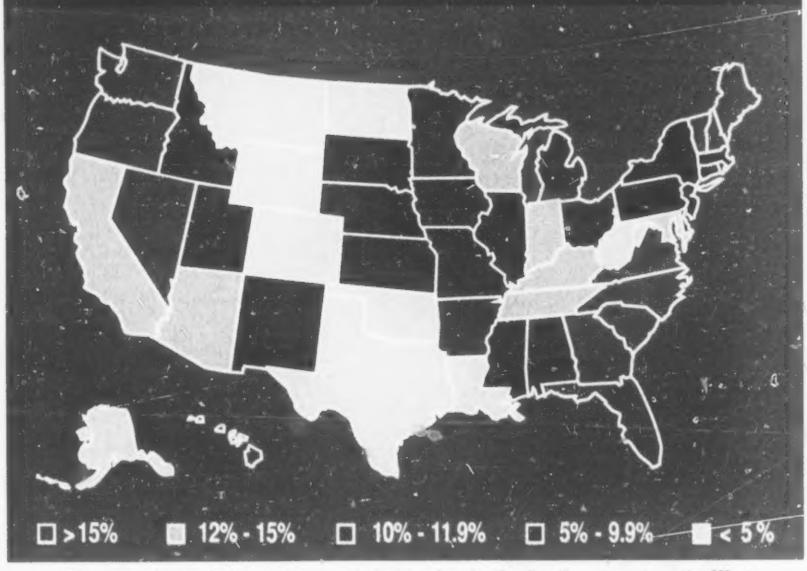
1989

FAST-GROWTH COMPANIES



States on the East and West Coasts have the highest percent of fast-growth companies, led by New Hampshire and Delaware. Wyoming has the lowest percent.

GROWTH IN JOBS



The most dynamic job generation is happening in the Southeast and on the West Coast. Nevada leads by a wide margin; Wyoming, again, is at the bottom.

WHAT THE RANKINGS MEAN

This year's rankings measure how a state is doing in stimulating entrepreneurial activity and economic expansion. A state's position on the list reflects its economy's relative success over a four-year period in three areas: job generation, new-business creation, and young-company growth.

JOB GENERATION. The figures in columns 1 and 2, from the federal government's Bureau of Labor Statistics, indicate a state's gain or loss in private-sector and civilian public-sector employment between February 1985 and February 1989.

NEW BUSINESSES. The figures in column 4, compiled for the Report on the States by Cognetics Inc., in Cambridge, Mass., include all companies founded in 1985 or later that had at least 10 employees by January 1989. The business birthrate in column 5 is this number divided by the total number of business establishments in the state.

YOUNG-COMPANY GROWTH. Column 7, also compiled by Cognetics, lists all the companies founded in 1981 or later that registered a growth index of at least 20 between January 1985 and January 1989. What's a growth index? Simply the company's *absolute* growth in employment multiplied by its *percentage* growth in employment (expressed as a decimal). Say you employed 50 people in January 1985 and 75 people in January 1989. Your growth index would be 25 X .50, or 12.5—not enough to make the list. Figuring growth in this way eliminates any bias in favor of large companies (which might have high absolute numbers) or small ones (which might have high percentage numbers).

Column 8 is the number of these young, fast-growing companies divided by all the state's business establishments founded in 1981 or later.

SCORES. A state's scores (columns 3, 6, and 9) are computer-generated rankings that reflect how it stands in relation to all the other states. The top state in any one category gets a score of 33.33, the bottom state a score of one. Every other state is assigned a number reflecting its relative position on an imaginary scale between the top and the bottom.

All scoring is based on a state's ranking in the percentage columns, not in the absolute-numbers columns. Column 10—the bottom line, so to speak—is the sum of the other three score columns. The top possible score is 100.

RATING THE STATES 1989: NEW JOBS, NEW COMPANIES, AND THE CLIMATE FOR GROWTH

Rank/State (1988 rank)	No. New Jobs (in thou.)	Growth in Jobs	Score	No. New Companies	Business Birthrate	Score	No. Fast-Growth Companies	% Fast-Growth Companies	Score	Total Score
	1	2	3	4	5	6	7	8	9	10
1. **Nevada** (8)	122.5	28.49%	33.33	533	2.87%	33.33	101	3.07%	20.36	87.02
2. **New Hampshire** (2)	81.9	18.38	24.96	464	2.19	22.86	133	4.53	33.33	81.15
3. **Virginia** (5)	454.7	19.25	25.68	2,301	2.52	27.94	612	3.73	26.22	79.84
4. **Maryland** (3)	269.4	14.84	22.02	1,993	2.48	27.33	479	3.75	26.40	75.75
5. **Georgia** (6)	439.8	17.66	24.36	2,759	2.54	28.25	654	3.23	21.76	74.39
6. **Florida** (4)	889.3	20.37	26.60	6,148	2.60	29.17	1,492	2.78	17.79	73.56
7. **Delaware** (7)	53.2	18.95	25.43	227	1.85	17.63	65	4.08	29.33	72.39
8. **North Carolina** (11)	402.2	15.50	22.57	2,113	2.14	22.09	522	3.38	23.12	67.78
9. **Tennessee** (10)	253.0	14.06	21.37	1,816	2.33	25.02	442	3.09	20.54	66.93
10. **California** (9)	1,505.2	14.01	21.33	11,911	2.19	22.86	3,086	3.31	22.49	66.69
11. **Arizona** (1)	179.8	14.41	21.66	1,537	2.13	21.94	387	3.23	21.78	65.38
12. **Hawaii** (17)	66.5	15.79	22.81	445	2.23	23.48	93	2.84	18.32	64.61
13. **South Carolina** (16)	206.4	16.36	23.28	1,203	2.36	25.48	221	2.53	15.57	64.33
14. **Vermont** (13)	41.8	19.08	25.53	192	1.63	14.24	47	3.05	20.18	59.96
15. **New Jersey** (14)	298.1	8.99	17.18	3,140	1.91	18.55	789	3.25	21.96	57.69
16. **Maine** (15)	76.6	17.45	24.19	327	1.43	11.16	89	3.24	21.87	57.22
17. **Massachusetts** (12)	248.1	8.68	16.92	1,988	1.63	14.24	551	3.45	23.74	54.90
18. **Connecticut** (18)	142.0	9.28	17.42	1,157	1.60	13.78	341	3.34	22.76	53.96
19. **Washington** (21)	308.4	18.70	25.22	1,494	1.58	13.47	400	2.38	14.23	52.92
20. **Alabama** (19)	158.5	11.35	19.14	1,143	1.90	18.40	233	2.43	14.68	52.21
21. **Indiana** (24)	306.2	14.57	21.80	1,504	1.60	13.78	358	2.64	16.[illegible]	52.12
22. **Utah** (22)	57.0	9.36	17.49	587	1.92	18.70	1[illegible]3	2.45	14.86	51.05
23. **Oregon** (32)	161.8	16.20	23.15	945	1.54	12.85	255	2.45	14.86	50.86
24. **Pennsylvania** (28)	405.3	8.79	17.01	3,372	1.52	12.55	852	3.13	20.90	50.46
25. **Kentucky** (30)	165.2	13.68	21.06	1,106	1.66	14.70	236	2.39	14.32	50.08
26. **Ohio** (25)	433.4	10.22	18.20	3,095	1.61	13.93	810	2.71	17.17	49.30
27. **Michigan** (23)	364.8	10.58	18.50	2,467	1.47	11.78	730	2.84	18.32	48.59
28. **New York** (27)	559.1	7.37	15.84	6,209	1.63	14.24	1,651	2.82	18.14	48.22
29. **Wisconsin** (33)	232.7	12.16	19.80	1,324	1.41	10.85	317	2.40	14.41	45.06
30. **Minnesota** (29)	206.1	11.36	19.14	1,359	1.40	10.70	354	2.48	15.12	44.97
31. **Texas** (20)	119.3	1.81	11.23	7,027	2.15	22.25	1,443	2.06	11.39	44.87
32. **Rhode Island** (26)	33.6	8.07	16.42	292	1.36	10.08	78	2.84	18.32	44.82
33. **Illinois** (34)	398.2	8.49	16.77	3,555	1.47	11.78	867	2.42	14.59	43.13
34. **Mississippi** (38)	80.9	9.88	17.92	660	1.66	14.70	111	1.78	8.90	41.52
35. **Missouri** (35)	199.9	9.88	17.91	1,490	1.42	11.01	344	2.13	12.01	40.93
36. **Kansas** (37)	86.2	9.05	17.23	846	1.41	10.85	177	2.04	11.21	39.30
37. **Colorado** (31)	22.4	1.60	11.06	1,403	1.87	17.93	297	1.92	10.15	39.14
38. **West Virginia** (40)	24.5	4.26	13.26	451	1.64	14.39	69	1.95	10.41	38.07
39. **New Mexico** (36)	36.2	7.13	15.64	402	1.52	12.55	85	1.75	8.64	36.82
40. **Arkansas** (39)	90.3	11.68	19.40	626	1.39	10.55	108	1.50	6.42	36.37
41. **Iowa** (44)	116.9	11.15	18.97	612	0.99	4.39	158	1.98	10.68	34.03
42. **Nebraska** (41)	60.3	9.46	17.57	410	1.08	5.77	107	1.87	9.70	33.04
43. **Idaho** (43)	21.2	6.51	15.12	243	1.16	7.00	47	1.37	5.26	27.39
44. **Louisiana** (42)	–82.0	–5.18	5.44	1,240	1.53	12.70	283	1.77	8.82	26.95
45. **South Dakota** (47)	17.1	7.09	15.60	156	0.90	3.00	31	1.27	4.38	22.98
46. **Oklahoma** (45)	–40.9	–3.50	6.83	1,000	1.33	9.62	209	1.43	5.80	22.25
47. **North Dakota** (49)	8.2	3.35	12.50	147	0.95	3.77	23	1.03	2.24	18.52
48. **Montana** (48)	3.9	1.45	10.93	205	0.90	3.00	46	1.15	3.31	17.24
49. **Alaska** (46)	–11.3	–5.26	5.38	150	1.14	6.70	31	1.07	2.60	14.67
50. **Wyoming** (50)	–20.5	–10.54	1.00	101	0.77	1.00	22	0.89	1.00	3.00

Chart compiled by special projects editor Sara Baer-Sinnott.

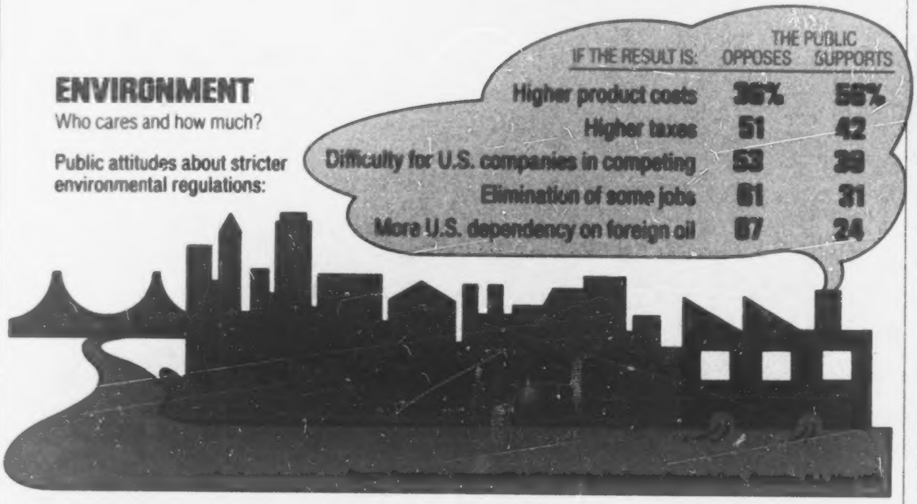
HANDS ON

A Manager's Notebook

ENVIRONMENT

Who cares and how much?

Public attitudes about stricter environmental regulations:



IF THE RESULT IS:	THE PUBLIC OPPOSES	THE PUBLIC SUPPORTS
Higher product costs	36%	56%
Higher taxes	51	42
Difficulty for U.S. companies in competing	53	39
Elimination of some jobs	61	31
More U.S. dependency on foreign oil	67	24

COMPENSATION

MAKING THE GRADE

To motivate student employees, Stuart Carey, owner of a Sonic Drive-In Restaurant franchise in Tucson, developed a simple bonus plan based on their grade point averages. If a student works at Carey's fast-food restaurant for a whole semester and earns a 2.5 to 3.0 GPA, Carey awards a 15¢-per-hour bonus for hours worked that semester. He ups the ante to 25¢ per hour for students earning better than a 3.0 average.

The cost has been marginal: Carey spent $1,200 for the most recent semester, less than 5% of payroll costs for that time period. Each of the 18 employees who were eligible for the GPA bonus got one. "The hardest part is, they are the best students, so they get better opportunities and move on," says Carey.

But he's had no problem attracting replacements. The system so impresses a Tucson high school's counselors that they recommend students apply for jobs at Sonic Drive-In. □

SALES

LONG-TERM COMMITMENT

As much as Dan McNulty, president and CEO of Acoustic Imaging Technologies Corp., in Tempe, Ariz., tried to convince prospects about his diagnostic ultrasound equipment's reliability, they wouldn't listen. So he juiced up the product's one-year warranty to make prospects prick up their ears. If the $130,000 machine, for which more than 55 orders have been placed this year, breaks down and is unusable, they get an automatic one-year warranty extension from the date of the breakdown, free. "It differentiates us from our competitors, where one-year warranties are the standard," says McNulty.

Since the program was introduced in April 1989, McNulty claims the company is ahead of sales projections. And only one customer has been able to take advantage of the extension, which normally sells for $10,000. □

EMPLOYEE SUGGESTIONS

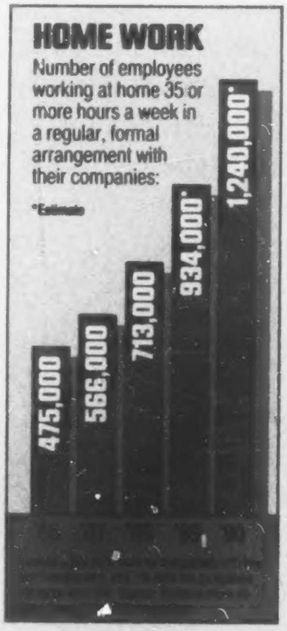
WHAT'S IT WORTH TO YOU?

Employee suggestions can be invaluable, but how do you reward them without fostering unhealthy competition? "Employees who make suggestions are like inventors," says Phillip Mayer, president of Luitink Manufacturing Co., in Menomonee Falls, Wis. "They each think their suggestion is the greatest invention since the wheel. They want to know, 'How come he got more money for his idea than I got for mine?' "

Mayer's solution wasn't to dole out lots of cash, but to change the nature of the reward. "We found out that you don't have to throw money out to get employee involvement," he says.

Every month, Mayer meets with the 50 or so employees of his metal-stamping company. He reads all suggestion cards aloud, responds to them, then places them in a box. At meeting's end, he picks a suggestion at random and reads off the name of the employee. That worker steps up and receives a silver dollar for each suggestion made by employees that month. "We turned a competitive thing into a fun thing," says Mayer.

There's another dividend too, he reports: "When they spend those silver dollars, they think about where they got them. So they start thinking of more suggestions." □



HOME WORK

Number of employees working at home 35 or more hours a week in a regular, formal arrangement with their companies:

*Estimate

RESOURCES

GETTING THE NUMBERS

If you're new to business or are having trouble explaining the ABCs of income and balance-sheet statements to your employees, you might want to look at a free primer that Merrill Lynch, Pierce, Fenner & Smith Inc. has been offering since 1973.

The 30-page *How to Read a Financial Report* gives concise, line-by-line explanations of consolidated balance sheets and income statements, accumulated retained-earnings statements, and statements of changes in financial position. The booklet is available from any Merrill Lynch office. □

CHARTS: CYNTHIA DAVIS

HANDS ON

MEETINGS

THE METER'S RUNNING

"The dentist preaches how we must be committed, and then he arrives late to his own meetings," a disgruntled physician's assistant complains. To calm this ubiquitous office gripe, Linda Miles—whose $1.6-million Virginia Beach, Va., company, Linda L. Miles & Associates, gives more than 100 training seminars a year to health-care professionals and their staffs—dreamed up the Tardy Kitty: for every minute late to a meeting, the culprit must pitch $1 into the kitty. At quarter's end, the accumulated fines fund a night out for the staff.

Grateful seminar attendees tell Miles that chronic latecomers are now prompt. "The key to its success is that there are no exceptions, because it's usually the leader who is running late," Miles observes. ☐

COMMUNICATIONS

KEEP IN TOUCH

Even in small companies it's a struggle to keep employees informed. Bob Cummins, president of Fargo Electronics, a $6-million Eden Prairie, Minn., specialty printer manufacturer, countered his 28 employees' threat of daily meetings with a charged idea: a daily electronic newsletter, which he was sure could be faster *and* more informative.

At day's end, department heads jot messages into the company's electronic-mail system. The next morning the file is printed out and copies of the "newsletter" are put in the break room. Regular topics include daily sales and production figures, profit-sharing updates, and customer feedback. "It's been great for eliminating surprises," says Cummins. "If problems with a product keep coming up in the newsletter, no one's shocked when we discontinue it." ☐

CUSTOMER SERVICE

TREAT THEM RIGHT

How do you motivate employees to give great customer service? Try taking the lead of Tom Vitacco, CEO of PrintMasters Inc., a franchised chain of more than 100 West Coast print shops. He uses customer correspondence to recognize workers who go the extra mile.

When a customer writes in praising an employee's service, Vitacco or another officer presents an employee with a framed certificate. Though giving out 5 to 10 such prizes a month is inexpensive for the company, the award makes its point. "It passes on a simple message," says Vitacco, "that we care about the employees and what they do. The equipment is the same in most print shops. What makes you different in this business is how you treat your customer." ☐

INTERNATIONAL

Are you ready for Europe 1992?

Is your company making any special preparations for the European unification in 1992?

ANNUAL SALES	YES	NO	Don't know
Less than $50 million	45%	55%	0%
$50 million to $500 million	45	40	15
More than $500 million	68	13	19

Will European unification lower your company's cost of doing business in Europe?

ANNUAL SALES	YES	NO	Don't know
Less than $50 million	20%	5%	75%
$50 million to $500 million	45	10	45
More than $500 million	44	18	38

Will a Euro-American joint venture be your company's major effort?

ANNUAL SALES	YES	NO	Don't know
Less than $50 million	40%	25%	35%
$50 million to $500 million	25	45	30
More than $500 million	13	56	31

Source: "Preparing for 1992," survey of 300 executives by American Management Association, New York City, July 1989

PUBLIC RELATIONS

WRITE ON THE MONEY

You want high visibility in your industry, but a full-page, four-color ad in a trade magazine can run about $4,000. Ron Harper, chairman of Harper Companies International, a $17-million holding company based in Charlotte, N.C., found a way to save money without sacrificing visibility.

Harper offered a $500 bonus to any employee who could write a technical article and get it published in a trade magazine. To date, at least 10 of his employees have met his challenge, which cost Harper $5,000 for what he guesses to be $40,000 worth of publicity. "Plus," he says, "the articles have a lot more credibility than an ad." To boost production, Harper lined up a local free-lance writer with whom employees can work and split the take. "Those who feel uncomfortable writing have no excuse now," he says. ☐

BANKING

GOING ONCE, TWICE . . .

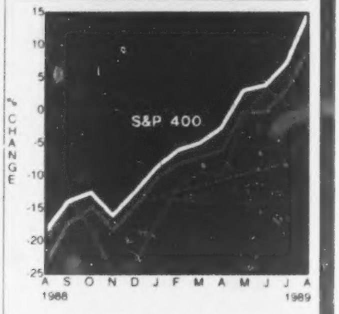
By 1986, after 16 years in business, Susan Bowen, CEO of Champion Awards Inc., a $7-million screen printer in Memphis, was tired of dickering with bankers. Her solution was to treat banking business like any major business purchase: put it out to bid. Bowen sent a package to four banks detailing her business's financial history, outlook, and banking needs. She closed her cover letter with "The best bid wins."

The result? A more generous line of credit, better interest rates on long-term loans, and a surge in her banker's competitive spirit. When her banking package went out for bids in 1988, her current bank kept her business by meeting another banker's lower bid. ☐

Reported by Leslie Brokaw, Joshua Hyatt, Teri Lammers, and Stephen D. Solomon

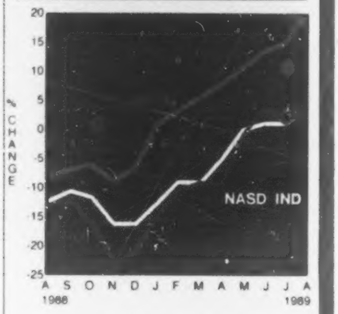
INVESTING IN GROWTH COMPANIES

INC. vs. CONSERVATIVE AVERAGES



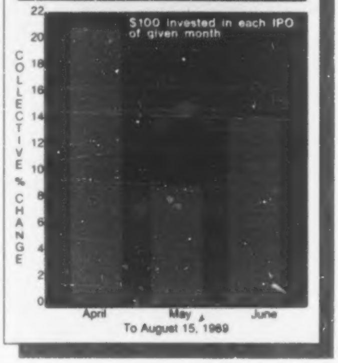
All averages start at 0 in October 1987

INC. vs. SPECULATIVE AVERAGES



All averages start at 0 in October 1987

IPOs IN THE AFTERMARKET



INITIAL PUBLIC OFFERINGS: JULY 1989

O-T-C sym.	Company	Business/product	Offering		First aftermarket bid	Underwriter
			Size ($mil.)	Price		
ALLP	**Alliance Pharmaceutical**	Mfrs. medical & pharmaceutical prods.	16.50	11.00	11	Oppenheimer
ALLOU	**Allou Health & Beauty Care**	Distr. health-care prods.	4.00	10.00[d]	10¼	D. H. Blair
APX[b]	**Apex Municipal Fund**	Closed-end fund	21.60	12.00	12	Merrill Lynch
[a]	**AVTR Systems**	Mfrs. audiovisual systems	1.00	6.25	7½	Rector Capital
BEII	**BEI Electronics**	Mfrs. defense electronics	24.30	9.00	9	Alex. Brown
BMT[c]	**Biomagnetic Technologies**	Mfrs. medical instruments	13.50	9.00	9	Paine Webber
CCAR	**CCAir**	Regional air carrier	14.40	8.00	8¼	Merrill Lynch
CGNX	**Cognex**	Mfrs. machine vision systems	12.77	11.00	11½	Alex. Brown
CORXU	**Cortex Pharmaceuticals**	Researches & develops pharmaceuticals	6.50	6.00[e]	6¼	D. H. Blair
[a]	**Deals Are Good**	Venture capital firm	0.15	6.00[f]	6	Westminster
EGLE	**Eagle Food Centers**	Operates supermarket chain	60.00	20.00	20¼	Goldman Sachs
GIDL	**Giddings & Lewis**	Mfrs. machine tools	119.00	14.00	14	First Boston
GZEA	**GZA Geo-Environmental Technologies**	Provides environmental-consulting svcs.	12.12	12.00	13½	Bear Stearns
HTR[b]	**Hyperion Total Return Fund**	Closed-end fund	264.00	12.00	12	Prudential-Bache
LECH	**Lechters**	Retails housewares	46.43	20.50	22	Goldman Sachs
MDCO	**Marine Drilling**	Oil & gas contract driller	29.75	8.50	8½	Dillon Read
DINE	**Mascott**	Operates restaurants	7.50	2.50	2½	F. N. Wolf
MCR[b]	**MFS Charter Income Trust**	Closed-end fund	900.00	12.00	12	Kidder Peabody
NNCXF	**Newbridge Networks**	Mfrs. digital networks	26.25	10.50	11½	Smith Barney
SCO[b]	**Smith Corona**	Mfrs. typewriters	252.00	21.00	21	Shearson
[a]	**Telident**	Provides telecommunications equipment	0.80	5.00	4⅞	R. J. Steichen
TOCRZ	**Tocor/Centocor**	Provides medical-research svcs.	30.00	12.00	12	Hambrecht
WCTV	**Westcott Communications**	Produces educational television programs	15.00	10.00	10½	Robertson

Initial public offerings sold at $1 or less not included. First aftermarket bid is approximate. [a] no symbol; [b] trading on NYSE; [c] trading on AMEX; [d] units of 3 common + 3 warrants; [e] units of 3 common + 2 warrants; [f] units of 3 common + 30 A warrants + 30 B warrants. Offering data source: *Going Public: The IPO Reporter*, a publication of The Dealer's Digest Inc., 150 Broadway, New York NY 10038

CHARTS: IMAGEBUILDER DESIGN

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